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ABSTRACT

Results of the evaluation of Title I and Impact Aid programs conducted in District 27, Queens, New York, are presented in this report. Program components described include: (1) reading resource centers organized in 14 Title I elementary schools and 4 junior high and intermediate schools as well as the Impact Guidance Program operated in conjunction with the reading resource centers; (2) mathematics resource laboratories servicing elementary and junior high school Title I students and industrial arts mobile units offering similar services; (3) bilingual resource centers located in four elementary schools; (4) an oral communication laboratory program for students in grades 4-6 deficient in both oral language and reading skills; and (5) an optional assignment reading program for students attending other than their officially designated schools. All programs described made extensive use of individualized instruction based on a diagnostic/prescriptive method. Also discussed in this report are the evaluation procedure, which called for considerable parent involvement, and statistical analysis and data reporting procedures. (GC)

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FINAL REPORT

AN EVALUATION OF THE

ESEA TITLE I AND IMPACT AID PROGRAMS

COMMUNITY SCHOOL DISTRICT 27

NEW YORK CITY BOARD OF EDUCATION 1978-1979

JULY, 1979

READING RESOURCE CENTERS - Elementary Level
READING RESOURCE CENTERS - Secondary Level
IMPACT GUIDANCE
MATHEMATICS RESOURCE CENTERS
BILINGUAL RESOURCE CENTERS
ORAL COMMUNICATIONS
OPTIONAL ASSIGNMENT
EVALUATION

An evaluation of a New York City district educational project funded under Title I of the Elementary and Secondary Education Act of 1965 and Impact Aid. (PL 89-10)

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Reading Resource Centers at the

Elementary Level

Function Number ~~85-91622~~ 5085-91622, 5085-98722

Prepared by John Formanek

PROGRAM DESCRIPTION

Reading Resource Laboratories were organized in the fourteen Title I Elementary Schools in District 27 Queens. Each of these laboratories was housed in a permanent easily identified room, and each Reading Resource Laboratory was staffed with one teacher and two paraprofessionals.

The laboratories operated daily for periods of forty-five minutes. The teacher and two educational assistants (paraprofessionals) provided small group and individual instruction to five groups consisting of a minimum of fifteen children and a maximum of eighteen per day. Each group of children attended the laboratory for a minimum of three and a maximum of five periods a week and were instructed according to their diagnosed instructional needs. The participant/staff ratio for instructional sessions was basically five-to-one.

In addition to books, work sheets and chalkboard work, materials such as Systems 80, cassette players and intensified reading program materials were used individually and for small group instruction. Additional instructional supplies were purchased (within budget guide lines) to improve the reading skills of the target population. Inventories of materials purchased in prior years and those currently purchased were kept on file at the District Office.

Instructional planning and sharing of information for each child was done cooperatively by Title I teachers and the classroom teachers. Conferences for this purpose were held periodically for Title I teachers and classroom teachers throughout the school year.

An individual folder was kept for each child containing diagnostic information, standardized and informal test results, vision screening results, a prescription record indicating assignments, programs, materials and samples of completed work. Attendance records were kept for all children attending the Reading Laboratory.

Teachers and paraprofessionals participated in a series of training sessions to promote higher levels of instructional effectiveness and student mastery of skills.

Program supervision was provided on a district-wide basis by a coordinator and two auxiliary trainers, who offered in-service training through on-site visits and monthly workshops. To foster communication with parents of participating pupils, a family assistant was based at each of the Title I schools and five parent program assistants were allocated to encourage parental involvement in a variety of programs.

PROGRAM OBJECTIVES

As a result of participating in the Reading Laboratory Program, the target population will demonstrate achievement in Reading Skills in Grades 1-6 beyond expectation ($p<.05$), in normal curve equivalent units, as measured by the Stanford Achievement Test, levels SESAT through Intermediate II appropriate for grade level, Form A.

EVALUATION DESIGN

(a) During the 1978-1979 school year, four on-site visits were made to each Title I elementary school in which a reading laboratory had been organized. At each visit, observations were made of the reading laboratory programs, and

interviews were held with administrators and project personnel, as well as with a sampling of pupils. Conferences were held with program coordinators and district-wide workshops were attended during the school year.

(b) Stanford Early School Achievement Tests in Reading were administered to first-and second-grade participants in September, 1978 and in May, 1979. Pre and post-test measures were compared, based on normal curve equivalent units. For participants in Grades three through six, performance on the Stanford Achievement Test in Reading were administered in September 1978, and were compared to performance in May 1979. Pre-and post-test measures were compared, in normal curve equivalent units, using t tests.

RESPONSE TO PREVIOUS FINDINGS

In the final evaluation report of the previous school year, the following recommendations were made with regard to the implementation of the elementary reading laboratory programs: (1) the recycling of the program (2) re-administering diagnostic tests at mid-year (3) classifying all laboratory materials according to the level and type of skill which these materials were intended to develop (4) scheduling visits early in the school year to previously established laboratories to acquaint teachers who are new to the program with instructional techniques and the use of materials (5) arranging schedules to enable the laboratory teachers to implement the program as designed, and not using lab teachers to "cover" classes of regular classroom teachers who are absent (6) allocating monies on a district -wide basis so that laboratory equipment can be maintained in good working order (7) arranging for linkage periods between laboratory personnel and classroom teachers at least on a monthly basis to ensure continuity of services (8) increasing efforts in scheduling workshops for parents of participating pupils.

Through program observations and interviews with project personnel, it was possible to determine the extent to which these recommendations were implemented during the current year. These findings are summarized as follows: (1) the reading resource programs were recycled for the 1978-1979 school year (2) diagnostic tests at mid-year were administered in all elementary reading laboratories (3) most laboratories had begun to classify the reading materials as to level and skill (4) two teachers who were new to the program in September were met early and frequently by district office personnel and given maximum assistance in setting up the program (5) laboratory teachers were not used to "cover" classes unless it was judged absolutely necessary to do so (6) money had been budgeted so that laboratory equipment could be maintained in good working order (7) linkage periods between laboratory personnel and classroom teachers are held on an informal basis and (8) efforts were made to improve parent involvement in the laboratory program.

Overall, it is apparent that most recommendations have been implemented. Coordination of services (linkage) has been developed to a lesser extent than other recommendations.

PROGRAM IMPLEMENTATION

At the start of the 1978-1979 school year eighteen laboratories had been established in the fourteen site schools; ten schools maintained one laboratory and four maintained two. In the case of the two-laboratory schools, one of the labs serviced the lower grade programs, and the other serviced the upper grades.

Each of the laboratories but one was functioning in a permanent room clearly labeled as a Reading Laboratory; the exception shares a large facility with a Mathematics Laboratory. This exception is due primarily to the small size of the

student body and the physical plant. In no way is it inferior to laboratories whose sole function is Reading instruction.

Pupils were selected for placement in laboratories based on their performance on the City-wide Standardized Tests administered in the spring of 1978, or in the case of the lower elementary grades, on the basis of teacher judgment. A minimum of fifteen children were accommodated in each laboratory for each group which was scheduled for a minimum of three instructional periods each week; the participant/staff ratio was operating at a minimum of five to one.

The choice of laboratory personnel has been excellent. All but two of the eighteen teachers who staff the laboratories have been assigned to the same positions during the previous school year. For the most part, continuity has been maintained. An additional teacher had to be replaced after mid-year due to illness, and the replacement teacher was given whatever help and assistance she needed immediately. The paraprofessionals were an invaluable aid. The teacher and two paraprofessionals meet at least once a day to prepare the programs for the children with whom they work. In most instances, cancellation of laboratory periods (for example, because of a lack of per diem substitutes for the regular classroom teachers) has been kept to a minimum, with some school to school variations.

Efforts have been made to provide linkage with classroom teachers on an on-going basis not only by the laboratory teachers, but in several instances, by the principal of the school as well.

Each laboratory teacher has been keeping records of the diagnostic information, the results of standardized and informal tests administered, vision screening test, prescription records and materials, and samples of each child's work, as well as attendance records.

Materials have been provided in all school laboratories, which include machines (System 80), cassette players, records, workbooks, story books; there is also evidence of many teacher-prepared materials. These materials are used to work with individual and small groups of children.

Program supervision has been provided by the coordinator and the auxiliary trainers. Training in the individual schools has been provided for particular teachers, as well as monthly workshops dealing with use of materials and methodology.

PROGRAM ACTIVITIES

Laboratory Rooms: Each of the Laboratory Rooms, with no exceptions, is an inviting room for children. The teachers and paraprofessionals have taken great care to arrange the room to accomodate several discrete learning stations, and have made excellent use of wall space for charts, decorations and for daily placement of the individual prescriptions for the children in easily accessible spots. In several rooms attractive mobiles add to the interest and assist in delineating working areas. A variety of reading materials are displayed, and used, leading children to discuss pictures or stories, all of which enhance language acquisition. In summary, each of the rooms is clean, neat, organized and attractive and provides a good learning-working atmosphere.

Principals: The principals for the most part provide good support for the laboratories and laboratory personnel. They all are aware of the functions of the labs and their purposes, and are "on top of" the programs. One of the principals stated that he is "proud of his reading laboratory". Some of the principals have a monthly newsletter to the staff to which they ask lab teachers to contribute reading ideas and activities. Many were instrumental in helping

to organize the Open Houses to assure a good parent turnout. They have all made earnest attempts to provide classroom coverage by not using laboratory teachers; and when per-diem substitutes are unavailable labs may be closed for only one or two periods a day rather than for a whole day. Most are aware of the problems that are encountered in operating a "pull-out" program, especially in large schools. One of the principals is well aware that linkage at this time is uni-directional, that is, from the lab teacher to the classroom teacher only.

Laboratory Teachers: All of the laboratory teachers are warm, caring, hard-working dedicated teachers. They are well prepared academically and present a wide range of variability in approaches and background. They have made the laboratory a place that children want to come to. Children who are not involved in the Title One program are eager to come to the laboratory. The teachers respond well to ideas, and are constantly on the lookout for new materials and ways of functioning. They very rarely have to raise their voices to maintain order. They have done an excellent job in teaching children how to be self-reliant, in learning how to make decisions. They support children's self-esteem. For example, one teacher had said to a child "It's O.K. to make a mistake. That's how you learn what you have to learn." When one child said "This is easy now," the teacher responded by saying "That's what I like to hear." None are negative about the program and the children they are working with.

Paraprofessionals: The paraprofessionals are apparently well trained. They enjoy working with the auxiliary trainer who has evidently provided them with good learning experiences which can be translated into the classroom. They are able to provide continuity for the program, as was the case when a lab teacher had to leave in mid-year. They are able to work with children, know how to ask

good questions, are quick to pick up when children need assistance, know how to give good clear concise directions to children, and in general are quite competent. They all feel part of the team in each laboratory, which reflects to a great extent upon the personalities of the paraprofessionals and laboratory teachers. There appear to be no conflicts in any of the labs.

Children: In all of the labs, the children exhibit good purposeful behavior. They know what the operation of the lab is like from the moment they walk into the room until time to straighten out and leave. They are well motivated and their learning behavior is mostly "on task". In one school, the windows were open because it was warm, and there was an outdoor dance festival going on, the children nevertheless were able to disregard the "noise" because the lab teacher told them that they would be participating later on in the afternoon. They are not afraid to ask for help, and they enjoy showing what they have accomplished to visitors. The periods begin with a minimum of dawdling because they know where to pick up their prescriptions (either from a wall pocket or from their desks) and they know what to do when they have finished an assignment. Teachers have been able to see affective changes in the children who have been coming to the lab, since the children now have more confidence with the reading situation and enthusiasm for reading. They do not abuse the areas where there are rugs on the floors in the library area, and know what appropriate behavior is. They feel free to come to a teacher or a para and ask "will you check my work now?" They are also learning to learn from one another. In some labs, children read to other children and enjoy the situation.

Program: All of the labs are skill oriented, with teachers in the intermediate grades working this year especially on comprehension skills. However, most of the teachers realize that skill development without placement in context will

not yield good results. Therefore, they implement this with experiential stories in the lower grade labs and writing and reading from story books in the intermediate grades. Children are encouraged to take paperback books home over the weekend. Listening to stories has become part of the program as well since one can only "read with meaning" a word that is in one's speaking or listening vocabulary. Teachers work with the materials provided by the district office and this to some extent governs the kind of programs offered, but teachers feel free to augment this by getting their own materials, or by having the principal purchase materials out of the regular school budget. This is an excellent indication that institutionalization is taking place. Most of the teachers suggest a whole language approach to the learning of reading. Teachers and children move easily from station to station during the lab period depending upon the skills being developed. Teachers are on constant lookout for signs of frustration and provide appropriate changes when these are observed. Good developmental plans are constructed for each child. Children know how to use the machinery in the lab, evidence of having received good initial instruction. The "Systems 80" is used by most teachers by having children work in pairs so that oral responses and discussion can take place. The Spellbinder is used in a similar fashion which leads to decision-making on the part of the children involved as well as putting "rules" into their own words when they discover the correct placement of letters. The machines are used for instruction and not just as a place to go; they are part of the program. The teacher and the para-professionals act as a team and the children look upon them as having equal authority in the room. The personnel are aware of the needs of the children and know which materials are appropriate for each child and/or skill.

Materials: Materials have been provided from the district office for all laboratories. However teachers have been allotted funds to purchase materials that they would like to use in the labs. Materials for the primary grades appear to present no "problem" of novelty for the children because at that point everything is new. It is when children have been in the lab over a several year period that the materials are no longer new to them. This is a problem for the intermediate lab teacher to try to overcome. Some teachers have suggested that if funds for purchase of materials is available, they should know about this at the very beginning of the year so that they could "shop around" and get appropriate materials for the children. The teachers of children in the primary labs would like to get some concrete materials to use for language extension and for classification studies. All of the materials in the labs are being used, or have been used, well. There is a need for replacement of cassettes, records, replacement parts; but none of these have impaired the functioning of the labs. Teachers would like to have more exposure to new materials from publishers and have suggested that this become part of the training workshops to a greater extent than is currently being done. Most of the teachers construct their own teaching materials and therefore use a great deal of ditto paper, which lead to one teacher's suggestion that each lab be given its own supply of paper.

Linkage: Most lab teachers would like to see more linkage with classroom teachers take place, but given the number of children they have to work with and the time constraints imposed by scheduling, good linkage patterns have been difficult to establish. Most of the lab teachers provided linkage during their prep period times (which they feel takes away from the planning that they do for the children) or during their lunch hours. While not the best, linkage is provided. Some teachers have devised forms which they distribute to classroom teachers on which they can indicate what skills they would be working on during

the ensuing week so that the lab might coordinate the children's needs with the classroom expectations. This works in many instances, but there are some classroom teachers who have never responded. One lab teacher had scheduled grade level meetings and individual folders for each child were prepared to be discussed; some teachers never came. One teacher said "I do not individualize upstairs, so don't ask me to do what YOU are doing." But undaunted, the lab teachers still continued to make the effort. In one school, the lab teacher has been requested to come into a classroom to demonstrate a particular teaching strategy. Most of the lab teachers agree that linkage is important, but it must be done in more than an informal manner. An Administrative decision which supports linkage is needed even though linkage becomes difficult in terms of scheduling. One laboratory has set up a Professional Resource Center at the doorway of the Lab, and some teachers stop by to look at the materials.

Testing & Records: The administration of the standardized tests presented no problems for the vast majority of lab teachers. The evaluator visited each lab during the post-testing period and was satisfied that all tests were being administered properly. Writing prescriptions based on the formal and informal test also present no problems. The lab teachers' main concern deals with the "over-testing" of the children, and they look forward to next year when they expect that the children will have to take only one diagnostic test at the beginning of the year. The lab teachers do a constant re-evaluation of the child during the course of the year and do prescribe learning activities on that basis. Prescriptions are used not only as a record of the child's needs and accomplishments, but as a motivating factor for the children as well. Most of the lab teachers do the record keeping at home, preferring to use the time in school to do their planning with the paraprofessionals. This year

some of the lab teachers were asked to participate in the construction of records; those who were involved have seen that most of the records are necessary. One teacher has asked that if record forms are to be changed, that she would like to have them in June so she could use the summer for planning. The majority of the lab teachers have suggested that, in light of the Chancellor's Diagnostic program for all children in the fall, they might be used as consultants for the classroom teachers to assist in interpreting the results of the tests. This would be an excellent strategy for a particular kind of linkage.

Lab size: Some teachers have viewed with some concern the decision that the number of children in the lab should be eighteen. Lab teachers work with between 115 and 145 children a week. To adequately write prescriptions for so many can become difficult. One problem that they faced were the children who come into the lab for whom they had not filled out a prescription because they are not "Lab Children." They accommodated them, but did not have any real specific focused tasks for them to accomplish. Another concern deals with children who come in during the middle of the year. They have no tests which they can administer upon which to make prescriptions.

Discussions have been held regarding a pull-out vs a whole class approach. Most lab teachers feel that the lab room must be larger physically if it is to accommodate a whole class, and that the personality of the teacher in the classroom will "make or break" the program. Some classroom teachers have come to the lab with their children and are then able to carry on the program if the lab teacher is absent. But these cases are far and few between. Another problem the teachers forsee is one of ultimate authority; if the classroom teacher is present, to whom do the children owe their allegiance? It becomes a matter of

domain and ownership. And, if the whole class is to use the lab, then more and different materials must be provided for the laboratory.

Many lab teachers feel that some of the children need more than three periods a week, (and some as they progress may need fewer sessions) but scheduling presents a problem. At least one teacher has voiced a concern about when to let a child go! She feels that the child might need some support; this might best be worked out with the individual teacher. Some would like to have a more "open-time" lab so that some children could remain longer than the forty-five minutes. These are concerns that would probably have to be resolved before a Whole-class in Lab program could be fully implemented. On the whole teachers feel they can do a better job if the number is limited to 15 children for a lab teacher and two paraprofessionals.

Attendance in the laboratories is a function of overall school attendance. Children love to come to the lab, but if parents don't send their children to school, they can't come to the lab.

Lab Closings: For the most part, in all the schools, labs have not been closed except when all other measures to cover a class have failed. The lab teachers feel that the principals have really tackled the problem, and that closings have not taken place as frequently as they had in prior years. Some principals will use a lab teacher for only a period or two during the day rather than for the whole day.

Open Houses: All laboratories had at least one Open House during the year, with several having held two. The attendance varied from six to twenty two. Some schools used phone calls to invite parents in addition to written invitations.

All the schools would like to have more parent involvement, not only in the Labs, but throughout the school. In one school, parents came with their babies; but this school apparently has an open door policy so parents feel that they are actually wanted. The principal was the prime mover in several of the schools in getting the parents out. Most labs had "hands-on workshops" which proved to be effective; one school held a Readathon which involved parents and older siblings along with the lab children. In light of the many "programs" that parents are involved with, perhaps a closer coordination of activities among the programs might bring out larger numbers of parents. Several of the teachers have suggested such coordination.

Training Programs: The district office has provided monthly workshops for teachers and paraprofessionals which the staff has found, generally, to be effective and helpful. They felt that the presenters of the workshops did a good job. Most of the teachers liked the large group meeting that then broke down into small groups based on interests and needs, and pointed out that teachers and paraprofessionals should have different group meetings because of differing needs. The difficulty in setting up workshops based on needs is complicated by the diverse backgrounds of the lab teachers.

Many of the teachers liked the sharing of materials prepared by other teachers, liked the presentations of new published materials, and liked the idea of having their colleagues do presentations of strategies they have evolved in classroom management and discussing differing prescription forms they might have devised. Some have made suggestions about disseminating ideas and materials through a Lab newsletter. Some teachers would like to have presentations at a higher level than methodology, while only one wanted "inspirational" speakers of note. Generally, the feeling was that the trainers were excellent, and that the workshops as presented did fill their needs.

RECOMMENDATIONS

1. The reading resource centers have been successful in promoting significant growth in reading for most participating pupils, have been providing meaningful experiences for children, their parents and their classroom teachers, and it is recommended that the program be continued.

2. All of the laboratory teachers readministered diagnostic tests at mid-year. To ensure that approrpiate instructional measures are being implemented on an ongoing basis, it is recommended that this procedure be continued on an on-going basis.

3. In some schools, laboratory teachers often covered classes because a sufficient number of substitute teachers were not available. At these schools continued efforts should be made to keep the laboratories open at all times so that laboratory teachers can implement the program as designed.

4. Replacement of, and purchase of new materials, should be made within budget limitations as early in the school year as possible. A committee of teachers working with the Program Coordinator should continue to meet to examine and discuss with their peers, a variety of materials before purchase.

5. In a majority of cases linkage between laboratory teachers and classroom teachers took place on an informal basis. It would be advantageous to arrange for scheduled linkage periods in all schools so that this can occur at a time other than the preparation period for the Laboratory teacher.

6. Because hardware equipment was in use continuously throughout the school year, repairs or replacement of parts were sometimes needed. It would be beneficial to allocate some monies on a district-wide basis to purchase a supply

of replacement parts to be kept at the District Office for distribution as soon as the necessity arose, thereby eliminating a waiting time for the needed supplies to be delivered from a vendor.

7. There have been cases where children have been transferred to other schools in the district and laboratory teachers have had some difficulty in getting information about the child. It is recommended that a directory of all Laboratory teachers be constructed indicating the school where they work, and the telephone number of the school, so that a Lab teacher can get in touch directly with another Lab teacher to get appropriate information about a transferred child, as quickly as possible, and so that the program for the child can continue.

8. For children entering the school from another district, and for children whom the principal or teachers request testing, a supply of appropriate tests should be available for the Laboratory teachers to use at various times during the year.

9. Open Houses and/or Workshops for parents of participating pupils were scheduled at all of the elementary schools. Increased efforts should be made to involve greater parent participation. It is recommended that linkage efforts be made with other Funded Programs so that duplication of efforts will not take place and parents will not feel pulled in several different directions.

10. Workshops for laboratory teachers and paraprofessionals should continue; it is recommended that laboratory teachers become an integral part of the planning and executing process so that their individual needs can be met.

11. In light of expressed teacher interest, it is suggested that a Teacher Exchange Newsletter might be instituted, edited by a committee of interested teachers. This might include descriptions of materials they have used that are "new" on the market which other teachers might not have had the opportunity of examining other than in a catalog.

SUMMARY

Reading Resource Centers have been on-going in the fourteen Title I elementary schools throughout District 27 during the 1978-1979 school year. A teacher and two educational assistants staffed each of the laboratories which offered individual and small group instruction to pupils in grades one to six. Youngsters were selected for placement in the program based on their performance on City-wide tests in reading administered in the Spring of 1978, or on the basis of teacher judgment for children in the early elementary grades. Most laboratories were fully operational promptly in the school year. Individual skill needs were assessed through the use of diagnostic inventories. Prescriptive measures were assigned to remedy specific skill weaknesses. Prescription forms and test scores were maintained in individual folders for each participant. All of the laboratories were equipped with sufficient software and hardware equipment. Program supervision and in-service training was provided on a district wide basis. Conferences between the laboratory teams and classroom teachers were held, sometimes informally at all of the schools. Parent Workshops were held at all of the schools. Recommendations include program continuance, adherence to laboratory instructional schedules, arrangements for the replacement and purchase of new equipment, scheduled conferences with classroom teachers, teacher/coordinator review of record keeping systems, scheduled parent workshops at

all the schools, continuation of mid-year administration of diagnostic tests construction of a directory of all laboratory teachers, initiation of a teacher-run Newsletter and continued workshops for laboratory personnel.

PUPIL PERFORMANCE

Data on pupil achievement are included in the statistical report on pages 98 - 101.

Junior High Reading Resource Centers

Function Number ~~85-91622~~, ~~85-98722~~ 5085-91622, 5085-98722

Prepared by Gloria A. Harris

PROGRAM DESCRIPTION

Intermediate school 53 and junior high schools 210, 226, and 198 each house one Title I reading lab for students in seventh, eighth and ninth grades. A lab teacher and two paraprofessionals function as the teaching staff and a family assistant, guidance counsellor and parent program assistant comprise the support staff. The program requires that each lab work in conjunction with one or more subject matter classroom teachers to provide linkage between reading and either English, social studies or science. A Title I Lab coordinator provides overall direction and supervision for the program, monitors the program and conducts monthly training workshops for the teaching and support staff.

OBJECTIVES AND EVALUATION

The program objective states that students who participate in the reading resource lab will show significant gains in reading achievement as shown by a comparison of scores from the pre- and post-test of the Standford Achievement Test in reading.

The information in this report is based on interviews with building administrators and supervisors, teachers, paraprofessionals, guidance counsellors, family assistant, parent program assistants and a selected number of students. An examination of attendance records, lab teacher's records of pupil progress,

pupil folders, and sample teaching material provided documentation of the implementation of the program guidelines. Observations in labs were made at strategic intervals in order to monitor the progress of the on-going program in each lab. Regular contacts with the Title I lab coordinator provided checks on observation and interview results.

PROGRAM IMPLEMENTATION

Observations during the past school year indicate that all the labs operated in compliance with the basic guidelines as set forth in the proposal. Some labs have demonstrated more growth than others with respect to providing a program characterized by providing a variety of learning options to match the learning styles of the students. There were changes in personnel in all labs except one. The following were added to the program to replace others: one lab teacher, two paraprofessionals and a guidance counselor. There were no changes among the family assistants and parent program assistants.

Attendance: An examination of the total attendance records for all the students assigned to the various labs indicates some serious problems of truancy and extremely low attendance. Some students attended the lab for as many as 139 days and others not classified as truants, only 50 days. When this variability is taken into consideration, it is apparent that there are a significant number of days in some labs when the number of children serviced is well below the fifteen that should be in the lab.

Efforts to improve the attendance of students are evident in the work of the support staff in monitoring daily attendance and making contacts with the home. Nevertheless the figures indicate that the problem is still a serious one. (Improved attendance however is evident in some of the labs.)

Space Allocation and Facilities: The programs of two labs have been enhanced by their location in optimal conditions with respect to size and facilities. One lab moved into a new room which contains two self-contained rooms. Here students could use audio-visual aids in private rooms or work with one of the paraprofessionals in another room without distrubing the quiet work of the other students. In the second lab, there was adequate space to house several study carrels and work tables. Changes in the space allocation for these two labs could seriously affect the future progress of these labs. A third lab functions in cramped quarters. Project lower enrollments and a larger number of students eligible for the labs make the allocation of more space for this lab both possible and urgent. A fourth lab functions in a space shared with another lab quite well because of the traditional format of program. If a different model of lab operation were in effect, more space would be necessary.

Equipment and Materials: Although all labs are reportedly given audio-visual aids, one lab has never given evidence of any systematic use of audio or visual material. The use of film loops was evident in one lab, Ducane filmstrip readers and cassette recorders in other, and a wide variety of taped/and visual material in a third.

One lab teacher was enterprising enough to borrow a controlled time reader and another tachistoscopic device from another classroom. Another teacher managed to find and acquire materials not being used by other reading teachers. In this school the recommendation that the reading labs in one complex cooperate and share unused materials was blocked by one of the non-Title I teachers who refused to share.

Unfortunately the lab which had the best environment and the most extensive array of materials has lost the lab teacher to another program. It is important that the materials accumulated and the space allocated not be lost to the lab. The teacher who inherits this program should not have to start from scratch.

Linkage With Classrooms: The guidelines for reading resource labs require that the work of the lab be coordinated or linked with a designated subject area, such as English, science or social studies. Scheduling problems at the secondary level tend to preclude providing common conference periods for lab teachers and classroom teachers. To the extent that teachers are willing and able to make informal arrangements, this linkage is in effect. One promising activity reported was a faculty conference on reading which enabled the staff to exchange ideas about various subject areas in relation to the reading lab. Held early during the school year, this kind of conference could foster more sharing between lab and classroom teachers.

Recent results on the basic competency test indicate that students could use more help with their total language development skills. For this reason it seems important that reading labs be more closely tied to oral communication labs and/or English labs so that reading labs will be less isolated from other programs of language improvement. For example, students could be encouraged to keep journals which would become reading material during lab sessions. Also, students in labs who have concentrated solely on decoding could give some attention to encoding messages as short essays or stories to be shared between the lab and the classroom. The language experience approach aimed at total language development could with appropriate adaptation be used to good effect with secondary students.

Testing Considerations

Because so much importance is placed on the pre- and post-test scores for students for evaluation and placement, it is important that only the best conditions be provided for these tests. In at least one instance it appears that students were tested in a lunch room with students from many other classes. Needless to say the potential for distraction is much too high to make an optimum testing situation. Testing of lab students in the lab room would be more advisable. Also, teachers should not test students with poor vision who are not wearing their eyeglasses.

Students who are diagnosted late in the school year as having specific learning disability are denied early referral and placement in appropriate programs if only a limited time is left for this time consuming process. Also, an on-site conference in each lab school is needed to inform the teaching and support staff about district and city-wide services available for children with learn-disability or other special needs which affect reading ability. One student, in particular, could have received some help before going on to high school if the identification-referral process could have been initiated early.

Guidance and Support Services: To what extent can an individual guidance counselor serve the needs of the students if only half the available time is spent in one location? More time is needed so that the counselor can establish a working relationship with students and teachers in a given location.

How effective can the work of a guidance counselor or the family assistant be if no telephone is available in the offices?

Although valuable exchanges are possible when the guidance counselor, family assistant and parent program assistant are housed in the same small area, to what extent is the work of each person hampered by lack of privacy, when it is needed?

The work of the guidance counselor and family assistant is extremely important for the ultimate success of all the students assigned to the lab. The reading lab very often serves as an early identification system to alert parents that the child is not attending or not responding. The junior high school is the place where students may be given their last chance to master basic competencies in reading. Psychological or social problems which affect this learning process must be given attention if the student is to have any opportunity to improve his skills. For this reason, the support team deserves the best working conditions possible.

Inservice Training and Coordination of Services: The Title I lab coordinator, new to the program this year, has done an effective job of monitoring the labs and providing training workshops for lab personnel. The agendas give evidence that the workshops covered the basic mechanics of lab operation. This is especially important because new teachers and paraprofessionals joined the lab program. In November, there was an intervisitation of District 27 reading labs that was highly successful and should be increased in the future. At that time, Title I lab teachers had an opportunity to visit the exemplary reading lab housed in an intermediate school. In January, family assistants and parent program assistants attended a workshop designed to increase their knowledge and facilitate their support for the reading lab program. The February meeting focused on factors affecting comprehension; the March meeting on teaching and evaluation concerns, and the April meeting on diagnosis and prescription tasks.

Diagnostic and Recording Procedures: In all labs there was evidence that teachers gave careful attention to continuous evaluation as well as pre- and

post test record keeping. Pupil profile, work folders and attendance books were always readily available for inspection.

Special attention given to providing students with visible evidence of their progress was clear in most labs. For example, one teacher designed a color-coded chart for various reading skills which indicated when a student moved on to another skill of greater complexity. It was evident that students in this lab took pride in achieving the work assigned on a contract basis. Another teacher instituted a progress chart later in the year and expressed his enthusiasm for the effect it had on the student's motivation. A third teacher had a well-developed system of feedback to the students which included progress charts, score conversion tables for the use by students, and comprehension check sheets.

PROGRAM EFFECTIVENESS

1977-78

How well were the Evaluation recommendations implemented during the past school year:

Evaluation Recommendation	Evidence of Response
1. Develop a procedure for teachers to classify all learning materials according to skill.	1. A highly successful intervisitation was held at the intermediate school where an excellent taxonomy system was in operation.
2. Provide opportunities for new teachers to visit exemplary on-going laboratories to learn details of program operation.	2. One new lab teacher made excellent use of the ideas gained by the visit. Indeed, this lab should be made a showcase for next year's program.
3. Minimize and eliminate the cancellation of lab classes due to assignment of lab teacher to cover regular programs when per diem subs are not available.	3. Marked improvement was noted in all four reading labs. Only in one lab was there any hint that the lab was closed so that the teachers could serve as substitutes.

4. Greater effort should be made to provide linkage with classroom teachers on an on-going basis.	4. There was little evidence that this was possible or practical given the time constraints of secondary school scheduling. However, grade conferences hold the most promise for the future.
5. Opportunities for involving guidance counselors in staff development should be designed to improve teacher skills in working with children.	5. Half time assignments of guidance counselors may be an obstacle to this kind of necessary staff development effort.

PUPIL PERFORMANCE

It appears from an informal inspection with individual teacher pre and post test scores that a number of students improved in their raw scores and percentile ratings to a marked degree. In a number of cases, low scores and percentiles were matched with students identified as truants or behavior problems.

The data analysis is handled in the statistical report on pages 98 and 101a.

SUMMARY OF PROGRAM STRENGTHS

It was evident during visits to labs that:

1. All the labs were operated by experienced and committed reading teachers and paraprofessionals who provide an on-going program of activities designed to help students improve their reading skills.
2. Students were most enthusiastic about their opportunity to work in the lab. An interview of a selected group of students yielded these positive comments. Behavior in the labs was for the most part motivated and purposeful.
3. Family assistants and parent program assistants gave important support to the work of the lab. The question is, has the addition of new duties for the parent program assistants affected their

role in contacting and organizing parents. Do the guidelines and job description for family assistants need reevaluation?

4. Building administrators and/or supervisors in each building have provided excellent support for the work of the labs. In one instance, an assistant principal spent part of the summer working with student data so that Title I eligible students could be identified for the lab. As a result this lab opened on time with an adequate number of students.
5. The Title I coordinator was most cooperative and eagerly followed suggestions made for the improvement of the program. That lab functioned smoothly with a good supply of materials and guidance may be credited to the work of the coordinator.

GENERAL RECOMMENDATIONS

1. Assign Title I guidance counselor to full time duty in one lab to provide more opportunities for the counsellor to establish a working relationship with the lab teachers and the support staff.
2. Arrange for the testing of children for learning disability during the first month of the new school year so that referrals and placements may be made sooner.
3. Hold on-site conference in October to acquaint the lab teachers, classroom teachers and support staff with the city-wide services available for children with learning disability and other special needs which affect reading ability.
4. Reassess the new duties of the parent program assistant to determine whether the original role has been diluted.

5. Provide optimum pre- and post- test conditions for reading lab students:
   a) test students in their own lab rooms not in one large room full of distractions.
   b) check to see that a student with poor vision wears glasses during the testing.
6. Link all reading labs more closely with oral communication labs and/or English classrooms to provide less isolation of reading labs from other labs and classrooms related to language development. Attention to a more integrated program of language experience (listening, speaking, reading, writing) is worthy of consideration at the secondary level.
7. Encourage all lab teachers to match more closely the individual learning styles of the lab students by continuously expanding the learning options (materials and approaches) provided during the lab period.

Impact Guidance

5085-98722

Function Number ~~85-91622~~

Prepared by Dr. Howard Norris

PROGRAM DESCRIPTION

Unlike the academic year of 1977-78, Impact Guidance Program began as an integral part of the laboratory services provided as remedial aid to scholastically needy children in Title I schools of District #27 during 1978-79. While, in the former instance, these special and additional guidance services were introduced from two to several months after school began, therefore necessitating a "working in" period to already existing programs, such was not the case during the present year. They were on-site and functioning when school began in September.

District #27 has been acutely aware that traditional methods have not proven to be satisfactory in educating effectively all of their pupils. They recognized that the teaching - learning process is extraordinarily complex and that additional methods should be made available to some pupils. They also recognized that learning is not merely a function of an independently operating intellect. There is the interaction of a feeling, motivated person of many and varied moods influenced by a multiplicity of beliefs and attitudes all within the framework of various habit patterns. Keeping this broader picture in mind, it became apparent that professionals, trained to think and operate within such a framework, i.e. guidance counselors, would provide important services. They could also deal with certain matters such as the involvement of various community services, parent contacts, etc. which would free teachers to spend more time directly working with and planning for their pupils' learning.

PROGRAM EVALUATION AND PROCEDURES

Evaluation of the Impact Guidance Program followed similar procedures as during the previous year. The first phase consisted of interviews with the five counselors, emphasizing their professional philosophies and methods, obtaining copies of forms employed, noting record keeping and follow-up procedures and learning the specific details of each of the services provided. The second phase involved meetings with administrators and lab teachers in the ten schools comprising the Program, i.e., P.S. 42, 105, 123, 197, 215, 223, IS 53, JH 198, 210, 226, to assess the extent, value and quality of the services. It should be noted that no school had the full time services of a Title I counselor. Rather, professional time, by and large, was distributed on a half-time basis.

Interviews were held within a discussion format and as informally as possible. Thus, the interviewee could relax and have a professional dialogue that was more revealing and gave a more valid picture of points of view and actual operation than is usually the case using a question and answer format. It was possible to note the emphases in counselor functioning as viewed by the counselors, how they were influenced by school expectations and actual experiences of part of the consumer group--teachers and administrators. It was also possible to note the degree of perceptual confluence concerning value of services between guidance staff and other relevant school personnel.

FINDINGS

As was the case during the previous year, Impact Guidance counselors activities began by meeting with lab teachers to attempt to determine which children would benefit most by what services. In addition, records were examined, achievement considered and children observed and contacted in order to establish a priority list for whom services would be provided.

In almost all cases, it was necessary for counselors to shuffle priorities in order to respond to the vagaries of the dynamic demands of the school, the emergencies that arose and further information gathered on the needs of pupils. While original priority lists served as general blueprints, they were never adhered to so rigidly that immediate exigencies and changing realities had to be shunted aside.

Virtually the full panoply of guidance services were provided in each school. There were consultations with administrators and teachers, evaluative testing and interviews with pupils, conferences with parents covering a wide array of topics concerning their children, counseling of pupils individually and in groups, referrals to various community agencies and special school services, communication with these agencies and services (such as the important Committees on the Handicapped, COH), crises interventions and follow-ups on continuing cases.

The emphases of specific services varied from counselor to counselor and school to school. This depended on the interests and guidance beliefs, philosophies and skills of the counselors and the educational beliefs, philosophies, skills and needs of the schools being served. Thus, some counselors emphasized group counseling and teacher consultations, some emphasized efficiency in referrals and close family contacts while some emphasized other combinations of services. Whatever the emphases, however, teachers and administrators were almost unanimous in assessing the services helpful, important and of high quality.

The flexibility described in priorities and in service emphases did not reflect inefficiency of performance. Rather, it reflected sensitivity to conditions and a mature, professional choice of the most appropriate actions selected from a wide range of possibilities.

Of all the lab teachers interviewed, only two made minimal use of Title I guidance services. It was the impression of this evaluator that, in both cases, the teachers were generally more comfortable in "going it alone." Intervention was not requested and suggestions did not appear to be desired.

The ratings of all other school personnel ranged from good to outstanding, with the majority skewed in the direction of outstanding. It was believed by these consumers that the variety of service provided played an important role in the teaching--learning programs of Title I labs.

Records apparently were complete and up to date. Notations were made in each child's folder in the Title I counselor's office of every contact made, nature of contact and individual's involved. There were also frequency summaries which, at a glance, could provide data on counselor's monthly activities.

SUMMARY AND RECOMMENDATIONS

Impact Guidance Program counselors were found to be dedicated, highly skilled professionals who provided a wide range of valuable services that influenced strongly and positively the teaching--learning programs in Title I labs. The frequency of particular services varied from counselor to counselor and from school to school but they were generally found to be relevant and valuable. A desired flexibility was noted in counselor's scheduling and activities which enabled them to deal with particular needs as they arose.

The following recommendations are offered in the interest of improving the guidance services:

1. Suggestions for additional guidance services were made by virtually all laboratory teachers and principals of Title I schools being served by counselors. Counselors were perceived as providing important, at times critical, services.

2. During the 1977-78 school year, two Title I schools, IS 53 and JH 198 had full-time Title I counselors while the other schools had two counselors splitting single, full time assignments. This year, all schools were serviced by two counselors. While it is understood that budgetary considerations were involved in such half-time scheduling, greater efficiency usually accrues from assigning a single counselor to each school. The continuity in counseling service for children should receive highest consideration in making counselor assignments.

Mathematics Resource Laboratories

Function Number ~~85-91623~~ 5085-91623

Prepared by Dr. Paul Longo

PROGRAM DESCRIPTION

As part of its 1978-79 Title I responsibilities, Community School District #27 organized an educational program for students in need of remedial help in mathematics. This program serviced eligible Title I students in fourteen elementary schools and four junior high school in the district. The instructional program was offered chiefly in the form of mathematics laboratories which were established in each of the participating schools. The District also provided two Industrial Arts Mobile Units which serviced students in ten of the eighteen Title I schools, offering instruction that paralleled the efforts made in the math labs. The purpose of the total program was to provide instruction which was highly individualized and geared to the specific need of the learner. The pupil population served were those students who met the eligibility requirements which have been established under the Title I guidelines and whose math skills had been demonstrated to be at least one year below grade level as measured by a standardized test.

The overall instructional design employed in the Mathematics Resource Laboratories was based upon a diagnostic-prescriptive approach to learning. Participating pupils were given a diagnostic test which allowed the teacher to pinpoint specific mathematical skills in need of remediation. A prescriptive program of instruction was then drawn up for each individual student based on the weaknesses that had been identified. The intent was to use a

variety of instructional approaches and materials in a small group setting that allowed a far greater opportunity to offer the pupil individual aid. The small group size and the diagnosis of specific need, were intended to allow the teacher to more carefully prescribe and implement a program which would remediate those areas of weakness identified by the test.

The approach proposed by the district was best described in the written proposal submitted for funding:

> The Mathematics Resource Laboratories shall provide diagnostic-prescriptive individual instruction in Mathematics for all eligible pupils. All eligible pupils will be tested with the Stanford Diagnostic Mathematics Test using the appropriate level for each grade. Individual prescriptions will be developed from summarizing results of the diagnostic instrument. The Instructional Placement Report will be maintained. Mathematics Laboratories will be self-contained with multi-media materials and equipment which will provide for the differences and requirements of each pupil's aptitude, skill, knowledge and interest. A learning station approach will be implemented. Labs will be housed in permanent rooms that can be identified, staffed and supplied as permanent additions to the regular school operation.
>
> Each group of children will attend the lab for a minimum of three (3) periods (45 minutes each) and a maximum of four (4) periods (45 minutes each) per week.
>
> The teacher and one educational assistant will work with 5 groups of children per day in each school. Each group will consist of a minimum of 15 target participants. Records to be maintained include...Diagnostic and prescriptive data, attendance records, Instructional Placement Report, pupil profile charts and activity data. Participant/Staff ratio for each instructional session will be 7.5 to 1.

The math labs then, were designed to organize pupils into instructional groups of at least fifteen pupils. The participant-staff ratio was fixed at 7.5 to 1 for <u>each</u> instructional session. Implicit in such a fixed ratio was the organization of an auxiliary population of pupils, beyond the minimum of

fifteen students who comprised each instructional group. In the event of absences, pupils were to be drawn from the auxiliary group to maintain a class size of fifteen. The establishment of a minimum pupil population on a per session basis represented a new policy for the District's math labs. To accommodate this policy, a group size of eighteen was generally sought.

As indicated in the quote cited above, teachers met with students at least three times a week for a total of 45 minutes. The staff for each math lab consisted of one teacher and an educational assistant. Under the teacher's overall guidance, they shared responsibility for testing, instruction and record keeping. At the beginning of the school year, the Stanford Diagnostic Arithmetic Test (SDAT) was given to those students who were potentially eligible for entrance into the program. The procedure adapted for this year was to attempt to complete all large group testing within one week. Additional testing (for absentees or latecomers) was to be conducted by the educational assistant while the teacher was instructing the students who had already been formed into groups. The intent was to preserve teaching time by beginning the program of instruction as early as possible. As part of this attempt to use all the teaching time available, math lab staff were also instructed to begin meeting with students in the very opening week of school. This also represented a departure from past practice and was part of the overall response to the recommendation to reclaim lost instruction time.

PROGRAM ORGANIZATION

As noted earlier, participants in the program of mathematics remediation were identified through the use of the SDAT, and were then organized into appropriate instructional groups. The administration of the SDAT had multiple

purposes in the program. It was used to verify pupil eligibility by determining their grade level scores. Since it is a diagnostic test, it was also used by teachers to specify weakness. The decision as to what work would be prescribed for each student was based to a large extent upon test results. Lastly, the SDAT was used on a pre- and post-test basis to determine pupil, and overall program progress, thereby serving as an evaluative tool.

Once instructional groups were formed, the math lab staff was responsible for developing an individual folder on each pupil. The folders included the student's test score, learning prescription and a record of the activities engaged in during each lab session. The activities were recorded at the conclusion of each session and thus represent a continuous record the staff could consult as they planned for succeeding lessons. A decentralized, non-lecture type instructional style was emphasized. The proposal called for a "learning station approach" to be implemented. This implied the use of a variety of manipulative materials and educational aids, orgainzed around the classroom in a manner that facilitated their use by students. The math labs were already well equipped in this regard from past years and the current proposal provided that additional expenditures be made to add to this supply.

> Funds shall be provided for the purchase of filmstrips, tutorettes, Veri-Tech Math Materials, attribute sets, instructional supplies (pencils-plastic overlays-oaktag-crayons), games to improve math skills for the expansion of the "Lending Library". All inventories of past and present materials will be kept on file at the District Office.

It was expected that the Mathematics Resource Laboratories would serve approximately 2100 pupils during the 1978-79 year. In the eighteen different

school sites, individual schools served from a low of 72 to a high of 190 pupils. Seventeen of the schools operated their math lab program on a full day basis. One school, with a smaller population of students met pupils only during the afternoon. The labs were served by a total of seventeen full-time teachers* and eighteen educational assistants. Responsibility for the overall organization of the program was in the hands of a coordinator who was aided by an auxiliary trainer. The coordinator supervised the conduct of the program, insuring that guidelines were adhered to and program purposes met. As part of this effort, monthly training sessions were conducted for the staff in which the use of teaching techniques, materials and procedures were demonstrated or reviewed.

PROGRAM COMPONENTS

The mathematics remedial program conducted by the district was comprised of three distinct parts. The bulk of the program consisted of sixteen math labs, housed in thirteen elementary and three junior high schools. A second and separate component consisted of two mobile industrial arts units, one located in the Rockaway sector of the school district and the other serving schools on the mainland. Each of the units serviced a different school in its area each day, thus offering math instruction in industrial ares to children in ten of the fourteen Title I elementary schools.

The third component of the program was an experimental approach being conducted in one elementary and one junior high school. The program was in many respects very similar to the math labs in the other schools except it relied

*One math lab teacher was assigned half-time. The overall program also employs two industrial arts teachers and two driver educational aides.

upon a process of computer programming to generate the learning prescriptions for the pupils who participated.

While the three components described functioned in different locations and ways, it was clear that the District conceived of them as an interrelated whole. The experimental program offered an opportunity to see if a slightly different approach might prove either more effective educationally or more efficient economically and still not result in loss of pupil learning. The underlying goals of this program remained the same as those of the regular math labs and the instructional philosophies were markedly similar. The same was true of the mobile unit. Though the instructors had yet another set of purposes in regard to the development of pupil skills in the industrial arts, it was a program which, as will be noted below, was closely integrated with instruction in the Mathematics Resource Laboratories. The organization of the math labs has been rather fully described in the preceding section. The other two components are described below.

Mobile Unit

The program conducted in the two mobile units was designed to provide students in the math lab with an opportunity to apply the skills they were learning in a practical situation. The industrial arts instructors choose projects for the students to work on that would allow and encourage the use of such skills. The intent was to have them engage in joint planning with the math lab teachers or coordinators to plan the projects that students would build. Out of past experience with such planning, several projects have evolved that appear to serve these education purposes. Since the mobile unit and the math labs serve the same pupil population, their planned

coordination capitalized upon an excellent instructional opportunity. The children's natural desire to build and construct was offered an effective educational outlet.

As indicated, the population that would participate in the industrial arts program was defined by the testing conducted in the math lab. The remedial math teachers orgainzed the children into groups for instructional purposes. These were the same groups that the mobile unit had to take. This meant that groups of from 12-18 pupils has to be accommodated by the mobile unit for instruction. The teaching in the program was done by a licensed industrial arts teacher with the aid of a driver, who helped instruct and supervise students use of power tools.

In the funding proposal submitted by the district, a terse description of the operational intent of the program was offered along with a list of the ten schools that would be involved:

> Mobile Unit P.Ss. 45, 123, 124, 155, 223 (Mainland), 42, 105, 106, 183, 197 (Rockaway)
>
> The industrial Arts Mobile Units will serve as a pragmatic extension for all elementary laboratory participants. Planned Industrial Arts project will help children gain concept of size, use numbers; discover the value of accurate measuring.
>
> The practical applications will help reduce the level of abstraction, reinforce the students' feeling of accomplishment; thereby developing a more positive attitude toward learning which will lead to a greater mastery of math skills.
>
> Articulation with laboratory teachers and mobile unit teachers will insure construction of mathematics projects and aids that can be used in the pupils' own math skill reinforcement activities.

As with the math lab, instructional periods were 45 minutes in length. Once the trailer was in place, pupils are brought from the building on a regular schedule, with each unit generally meeting five groups a day.

Experimental Program

This program, located in but two schools, had the same general intent as the regular Mathematics Resource Laboratories. It served a population of students who were Title I eligible and who were in need of remedial help. Operationally it functioned in a very similar manner. The major difference was that the experimental program was built upon an instructional design created by Prescription Learning Corporation (PLC). As with the math labs, the approach employed was a highly individualized, diagnostic-prescriptive mode. The diagnosis of pupil weakness was done with a test provided by PLC. The test was run through a computer which not only scored it, but used the information gathered about areas in which the pupil performed poorly, to generate a set of prescriptions. These prescriptions were tied to a set of workbooks and teaching machines that PLC had rented to participating schools. Teachers in the program were provided with the prescriptions which specified what activities and equipment were to be used with the student to upgrade his or her mathematical skills.

A major strength of this program was that it relieved the teacher of the need to prescribe the remedial activities for students. The freedom could be used to organize the math lab more thoroughly and plan instruction in greater detail. It also offered the district the opportunity to test whether or not this approach was an improvement over that being employed in the regular math labs. The willingness to experiment in the hopes of discovering improved means of instructing students was in itself a program strength and a valuable contribution to the district's planning for the future. A concise program description, taken from the district's proposal, is offered below:

Experimental Program Using Prescription Learning

The Title I Mathematics Resource Laboratories will use Prescription Learning for total individualization in Mathematics instruction. All eligible pupils will be tested with the Stanford Diagnostic Mathematics Test using the appropriate level for each grade. The individual prescription is developed through computer matching of learning deficiencies with corrective learning programs to procedures. A printout is provided for each pupil indicating pretest and posttest scores, materials worked on, and time spent in the laboratory. The laboratory will be self contained with multi-media, the necessary hardware and software to carry out the individual prescription. Laboratories will be housed in permanent rooms that can be identified, staffed and supplied as permanent additions to the regular school operation.

The 16 station Title I lab will service 125 pupils daily; three times per week. Pupils in the laboratory will work on their deficiencies and areas of need individually and in small groups with the teacher and paraprofessional.

Equipment - Materials and Supplies

The Mathematics Laboratory (Prescription Learning) will consist of 16 stations with twelve carrels and two tables. The 16 station lab will service 125 pupils daily; three times per week 45 minute periods per session.

Hardware		Software
Systems 80	+	software
Mind Station	+	software
Hoffman stations cassette tape	+	SRA Computapes
2-Mathiputer	+	exercises
Math Programs		Manipulatives:
		Cuisenaire - Unifix = Base Blocks

EVALUATION OBJECTIVES AND PROCEDURES

The district stated the goals of its remedial math program in very direct and concise terms. The program sought to accomplish one major objective; the improvement of the mathematics skills of the pupils who participated. The term "mathematics skills" is meant to denote conceptual, computational and problem solving skills. The degree of change sought was growth in ability

that was statistically significant as measured by pre- and post-tests administered to students in the program.

The design for measuring the accomplishment of this goal could be equally direct since the objective was so clearly stated. The SDAT was given to students participating in the program at the beginning (September) and end (May) of the school year. The sampling plan called for the total population of students to be tested. A comparison of the two tests were made at the conclusion of the program to measure the average growth of pupils. In order to determine if differences in pre- and post-test scores were statistically significant, a correlated t test was used. Differences beyond those which could have been expected in normal curve equivalent units were sought. When such differences occur, then the unexpected growth they reflect can be attributed to the intervention represented by the program of remediation.

The second phase of the evaluation effort called for a narrative describing program functioning. That narrative is represented by this document. It consists of a description of the proposal guidelines under which the program was to operate and an analysis of the extent to which the program, as it actually was conducted, met the criteria and intent implied by those guidelines. The collect the data for such an analysis, a series of four visits to each of the remedial math program sites were made over the course of the year. The visits were conducted at periodic intervals during the school year. Their purpose was to collect first-hand information about how well the program was meeting the objective of improving student skills in math. The SDAT test scores reflect one measure of participant growth. The visits were intended to afford the opportunity to determine how effectively the

program was organized to meet its objectives. The observations provided the data for an analysis of program performance that will be presented in narrative form in a subsequent section.

It should be noted that the procedures described above were used to evaluate the experimental as well as the regular math labs. In the case of the mobile units, measures of student growth that were specific to that particular program were not used. Since the student population is the same as that participating in the math labs and the primary intent in providing the mobile units is to support the attempt to improve math skills, significant differences in pre and post test results on the SDAT will be used as the main measure of success for this program as well.

ADMINISTRATION AND IMPLEMENTATION

This was a well-orgainzed and capably administered program. The guidelines set forth in the proposal were very clearly adhered to in the actual operation of the math labs. The staff that conducted the program was able. The organization of the classrooms reflected their clear understanding of the instructional intent of the program. Learning stations were set up and materials laid out in a manner that facilitated the individualization that the program emphasized. The testing and record keeping which provided the entire foundation for instruction was conducted as specified. Individual folders were maintained for each student. They contained a diagnosis, prescription and a day by day record of the activities students had engaged in. Many of the teachers, though not all, also maintained a continuous record of how well the student had done in these separate activities. In brief, there can be little question that the program was implemented by the instructional staff in the manner intended by the writers of the proposal.

Facilities

Overall, the district provided excellent facilities for the program. As has been pointed out in the past, the provision of adequate space is not a minor consideration if one is seeking to effectively implement a program such as that described. The district administration appears to have recognized this and through the physical facilities that have been made available, they have manifested their desire for program success in the most practical terms.

The classrooms provided were generally spacious, allowing the teaching staff to set up the learning stations suggested in the proposal. The size of the rooms also facilitated the individualization of instruction, which was the heart of the program. Smaller classrooms provide a much more disruptive environment for the learners and inhibit individualization by limiting the number and type of instructional activities that can be carried on. Given the decision to increase the size of instructional groups, the problem of space becomes, if anything, even more critical. In all but two of the labs, full classrooms were provided and in one of the more confined of these two exceptions, reasonable adjustments were made in the way instruction was conducted. In the remainder of the regular math labs, the facilities were excellent.

The mobile units faced some difficulty in terms of their ability to serve classes whose minimum size was set at fifteen. If the policy of drawing from an auxiliary group to maintain the group at fifteen for each session were to be strictly adhered to, it would have presented even more of a problem. These units are unalterably limited in their capacity to

to accommodate students. There is surely a point at which the attempt to service an increasing number of students would result in severely diminished instructional effectiveness. It seemed that these units were bordering on those limits this year. It would appear to be wise to consult the staff and consider closely what size groups would allow this program to be maximally effective.

One of the two experimental labs was also affected by the problem of space. It is necessary to note that the program functioned quite well and clearly seemed to meet the objectives that had been set for it. It accomplished this by making intelligent and necessary adjustments in the number of pupils it serviced and the frequency with which classes meet. No objections are raised here for the school lacked space and the program, with adjustments, seemed to be functioning rather smoothly.

Materials and Equipment

The labs were extremely well supplied. The district has reaped the benefits of the build-up of supplies and equipment over the years that it has had Title I programs. A good job has been done of preserving and maintaining these materials so that most of the labs had an excellent choice of teaching tools available. The material that had been chosen were quite varied. They included hardware in the form of tape-recorders, filstrip projectors and a number of different pieces of visual, programmed learning machines. There were also a great variety of manipulative materials available that students could use directly or which could be used by teachers to help illustrate particular concepts. Additionally, the labs contained a

great deal of software in the way of games, math kits and worksheets of various types. In some of the labs, the games became part of a lending library as indicated in the proposal.* Overall, the materials available were varied, useful and had been selected with an understanding of the needs of children and the educational philosophy of the program. They were, in general, well chosen for their intended purpose.

Teacher use of these materials was relatively skilled. They clearly employed them to make the program of individualization possible and their use was surely effective in this regard. As was noted last year, the simple availability of so many materials also presented a dilemma for the staff. Teachers must make many decisions about what instructional aids they should use, and when. There are no simple guidelines for such choices and mistakes are made. The staff must be constantly made alert to the potential inefficiency and ineffectiveness of some of these materials as well as the circumstances and situations in which they can be best used. The temptation simply to use what is available must be resisted and training sessions for teachers should continue to stress both the possibilities and the limitations of such materials. One means of insuring that the requirement and supplies made available will serve instructional needs, is to closely enlist the teaching staff in the selection of new materials. Such a recommendation was made last year and the district has responded with a statement of its intent to order materials "after consultation and examination of individual building needs." It is hoped that this procedure will further contribute to a system of purchasing supplies for the program which has been successfully handled and proven effective.

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*Perhaps less than half of the labs made any reasonable use of such lending libraries and the effectiveness of the concept is questionable.

Teaching Procedures

The instructional techniques employed by the teaching staff reflected their understanding of the design of the program. Total group instruction was non-existent and a considerable degree of individualization was achieved. In practically all of the labs, a smooth working relationship was developed between the teacher and the educational assistant. A clear delineation of responsibilities was worked out which facilitated attempts to individualize instruction. Typically, the teacher and the educational assistant rotated their work with different children, thereby enabling the child to be exposed to the talents each had to offer.

The instruction that was conducted in the math labs was varied. The teaching staff capitalized upon the strengths of the program, using the fuller range of instructional resources available to them in a capable manner. The labs had a distinct advantage over the regular classrooms in that they could vary not simply their teaching strategies but the degree of individualization which was attempted. This advantage was made possible by the additional help of an educational assistant, the many materials available, and the smaller size of the instructional groups. The staff did an effective job of making use of these advantages. The instruction was generally addressed to specific needs of children, being directed at identified weaknesses. A variety of techniques and materials were employed that appeared to effectively maintain the interest of the learner. The combination of special attention and teaching directed to individual need are the core elements that make the program work. That is its strength and it rests, to some extent, on group size being maintained as a reasonable level.

Some of the students, for example, who represented discipline problems elsewhere could not be distinguished from other children in the math lab. They obviously benefitted from the variety in teaching technique, choice of materials, small group atmosphere and greater availability of teachers. In the case of these children, the lab has been an intervening force of considerable power and great importance. It is for such reasons that class size should not be increased lightly, for much of the lab's strength may be lost in the process.

One does not seek to make the case that all is perfect. As noted previously, mistakes of some import are made. Sometimes materials are poorly chosen for the purpose or are well chosen but badly used. There are also times when the emphasis on maintaining student interest through enjoyment of lab activities becomes paramount and threatens to replace meaningful learning. There are even instances when a teaching philosophy which insists that the student must demonstrate an "understanding" of computational processes, may actually result in impeding learning. Beyond this, there are other problems not directly related to the math labs such as the dilemma posed by conducting "pull-out" programs in such numbers that the schools run the risk of eroding the effectiveness of the classroom teacher, diminishing their sense of responsibility for the learners.

That the math labs have defects goes without saying, but for all that, as effective environment for learning has been created. The teaching staff is a responsible one, is knowledgeable about the program and works capably within the confines of what the math lab is set up to do. This is perhaps

neither the best nor the only structure available but it is an effective one. Caution should be exercised in the type and amount of adjustment that is attempted. It is possible to make adjustments that rob, weaken or render less effective the things that such a structure has traditionally allowed teachers to do well, without obtaining a corresponding benefit or advantage. This may be the case with changes in class size. There must be a point at which increases in class size will begin to seriously diminish the impact that a given structure was created to deliver. Such things cannot be easily measured but it would seem clear that the district is at a point where it must give this problem serious attention in any future decisions that are made.

The purpose in stressing the point this year is to note the potential danger in what appears to be a movement toward increased numbers in the labs. Group size has moved upward to a minimum of fifteen. The actual operational practice this year seemed to have been to form instructional groups of eighteen. Such increases may represent a false economy that frustrates what the program is designed to do. It is necessary to ask whether special help can be offered in circumstances where class size begins to approach what once had been considered a normal class size for younger children. It must be recalled that these classrooms were created to deal with low achievement students with limited motivation who were in need of much individual help. Some children in the junior high school can be as much as 4 or 5 years below grade level. They may simply require more aid that can be reasonably offered in groups as large as those mandated this year.

Enlarging class size increases the burden on planning, record keeping and classroom organization. It can result in a decreased emphasis on individualization and a less effective use of the staff, which is spread too thin to be working with students in sufficient depth. It can also contribute to circumstances in which groups are noisier, control more difficult and the strain on available resources more pronounced. The chief danger, however, is that of forcing teachers into a position where they increase the amount of large group instruction, a process that would successfully reverse inroads toward greater individualization which have taken years to accomplish.

Brief note should also be made of the policy of attempting to replace absentees on a per session basis. It is a policy whose educational merit seems questionable. For most students, such meetings would seem indiscriminate and lacking in continuity. There would also be an absence of any long range planning for their needs, since it would be impossible to determine when they would be present. Such a policy may intend to make maximum use of an available facility, but it appears to unequally consider the impact upon program and regular classroom functioning as opposed to the minimal amount of additional instruction which might be offered. These decisions to increase the average size of groups and maintain them at a minimum level rather than providing beneficial training for a larger number of pupils may simply result in dimishing the education of the others. There are instances in which classroom teachers are left with groups of 5 to 8 while the lab, with it emphasis on individualization, is dealing with eighteen. Even allowing for the specialized skills of the staff and superior equipment, such an arrangement does not recommend itself.

PROGRAM OPERATION

Overview

There was every indication that the program had been organized in the manner proposed and that it moved toward accomplishing the goals that were set for it. Based on several visits to each of the math labs, it was apparent that the coordinator and the instructional staff had a clear understanding of the way the program was intended to operate and that implementation had proceeded in a fashion consistent with that intent. The math labs were served by a veteran staff whose knowledge of the instructional content and familiarity with available equipment allowed them to make good use of what had been provided.

The overall administration of the program was capably handled by the district. As noted, the program was equipped and supplied. The choice of staff was in most instances quite good. The administration showed itself responsive to suggestions for program improvement, having taken a number of steps this year to deal with problems such as linkage, decentralizing the purchase of materials, and reclaiming instructional time lost to testing and other school related tasks. The district is still in the process of determining how effective these attempted solutions have been. It appears at this juncture that some of the revisions posed to resolve the problems noted, may themselves have created other difficulties that are potentially more troublesome. That dilemma will be discussed in the succeeding section. Nonetheless, both the intent to improve program functioning and the willingness to remain open to a revision of their own proposed solutions have been impressive and are to be commended.

Assessment

It was pointed out in last year's evaluation that between the scheduling of classes and the administration of tests, it was possible for some schools to lose upwards of 30% of the total teaching time available for the school year. A number of steps were taken to recover that lost time this year. The teaching staff was instructed to open the math labs and begin their program the first week of school. Additionally, they were advised to avoid mass testing but to implement a process in which teaching and testing were conducted at the same time. This procedure required that the educational assistant would test a small group of children while the teacher was conducting a program of instruction, with the remainder of the class. In this way it was hoped that the instruction of students would begin early in the year and remain continuous throughout.

The attempt to save instructional time is commendable, but the policy decided upon seemed ill advised for a number of reasons. Beginning a program of instruction prior to the testing that identified the specific children who would be in the labs, resulted in teachers being forced to organize groups containing students with whom they did not end up working. After testing, the groups had to be reformed and some students eliminated. That imposed a difficulty on the teachers, who had to reorganize their groups, and on the students who were excluded after several weeks in the program. Additionally, the labs are designed to operate on the basis of a prescription created in response to diagnosis weakness. Such an instructional program cannot be run effectively prior to diagnosis. Though teachers can do some diagnosis on their own and begin to implement a prescription, much of the effort is

wasted for children who are eliminated and duplicated for those who are not. The staff could barely complete such an informal diagnosis before the testing program was completed and the official results led to a reformation of groups and new prescriptions.

On balance, it would seem more was lost then gained by so stringent an effort to reclaim instructional time. What was obtained in the way of instruction over the first two weeks may have been more than offset by the loss in adequate preparation. The organization of the lab to meet its educational goals poses some problems that teachers in the regular classroom, who begin earlier, do not face. The math lab staff does require a reasonable period to physically set up the lab, contact teachers, orgainze groups, prepare a separate folder for each student, correct tests and prescribe individualized programs of instruction. While there is no need for this to take months, some time must be provided or one runs the risk of adjustments being made that hamper program efficiency.

Some similar problems are posed by the decision to "teach and test." At one level, the test's results may prove less accurate than desired. The teaching conducted while the test is being taken can be disruptive and distracting for students. It must be recognized that those taking tests are frequently students who have had very limited success in mathematics. Their attention span, particularly in this area, may not be very great. Confronting them with a visual or auditory alternative to what is conceived of as an unappealing task may simply present them with a temptation that will not be resisted. Beyond that, the nature of the test being used does not lend itself to this arrangement. Considerable portions of the SDAT require that

the teacher read to students. This involves not only directions but several sections where an item by item reading of instruction that do not appear on the test must be made by the teacher. A student who is distracted at such a time has no means available for returning to that item at a later time. This must directly influence test scores and could invalidate both the diagnosis and prescription which follows.

It is suggested the decision to test and teach be reassessed and that the views of teaching staff as to its usefulness be sought. The intended purpose of the administration in making the decision is understood. The mandate to test students as a means of evaluating program success poses serious problems. Anywhere that Title I programs are conducted, it seems that testing dominates the labs and robs them of far too much instructional time. If the testing cannot be changed (employ a shorter test or use the spring scores to organize groups in the fall), then it might prove necessary to accept it as an unavoidable evil and find other means of saving time. The early arrival of the tests themselves this year, for example, was one such aid. Because the tests were available when the schools opened, teachers were able to begin immediately. This was not true last year. Coordination of efforts between the math and reading teacher can also help. Both programs must test students and then organize instructional groups. The more smoothly this is done, the less instructional time will be lost. It may also be possible to save time by developing improved means of offering make-up tests to the many students who are absent and miss all or part of the SDAT when it is first given.

In any event, it would seem profitable to reconsider some of the steps that have been taken and to seek as broad a spectrum of opinion as possible in making future decisions. In instances where decisions are made at a distance and applied equally to all, specific results can occur which are less beneficial than intended. This may be the case with the attempt to initiate instruction earlier and the revised testing procedure.

In regard to the quality of instruction offered in the program, as noted earlier, it was generally quite high though not uniformly so. The exceptions were few and even here the structure of the program does much to compensate for the lack of an authoritative approach. There is little question that the teaching staff was knowledgeable in the mathematical content they had to teach and that people were well trained for their tasks. Indeed, the monthly staff training sessions invariably reflected thoughtful planning and capable organization. The evaluator did not attend a session in which the preparation was not thorough and readily apparent. The teaching staff was generally supplied with a folder of materials including numerous activities and ideas for teaching math or articles reflecting current thoughts on mathematics. Activities usually included demonstrations of materials or useful teaching techniques. The meetings were well conducted and there was a high degree of staff involvement, some of it planned, some as an outcome of the types of activities offered. The instruction offered by the staff in the math labs reflected this training as well as the personal ability of the teachers. That ability was generally of a high order.

Where instruction suffered, it appeared to be from a refusal to sufficiently question practices that have too long been labeled "modern" and which have

themselves fallen into rigid molds whose usefulness must be questioned. A few brief examples might suffice to illustrate the point. In teaching subtraction, a "new" approach that has now become thoroughly conventional is to have students realize that we "exchange" and do not "borrow." Greater stress seems to be placed on this distinction than its usefulness merits. More important, its application is every bit as rigid as anything teachers have done in the past, and for some learners it is equally confusing. There are instances in which pupil understanding of exchange is sought as if we could command it. Subtraction is a difficult process for the learners, far more so that multiplication for example, and to place the added burden of understanding on every learner seems a misunderstanding of good principles of teaching. It is possible that some learners will understand only after they have performed the skill for some time, and not at all prior to it.

A similar problem arises on instances where materials are used with the implicit assumption that they have the power to clarify or illustrate an underlying concept. Many materials are thus sold and are therefore so used. To illustrate, plastic discs, an abacus, or materials called unifex cubes are often used to demonstrate the relationship between columns in addition and subtraction. While effective with some, other children are more confused by these materials than helped. They are unable to "see" that a blue cube, disc or wafer is equal to ten while a red one that is in every way the same size, shape and dimension, is equal to one. Materials which do not clarify and yet are insistently used with pupils, can result in further confusing them. It is possible to teach this concept using "square materials" or their equivalent, where the difference in amount is concrete and visible. Then

teachers could move on to an abstraction like money where children have an implicit understanding that a penny and dime differ in amount, though the difference is not visible. This would allow a progression from the concrete to the semi-abstract to the total abstration of numerical symbols. The point need not be overdrawn. Some materials accomplish less than they promise or are ineffective with certain learners. The effectiveness of any material for a given child needs to be constantly assessed, not assumed.

Sometimes we employ "modern" techniques that appear to be of questionable use to learners now, and even more debilitating in the future. The following procedure for teaching subtraction has been observed on numerous occasions. The student is given plastic discs and a subtraction problem such as 16-9. The solution is obtained by (1) counting out 16 cubes, (2) then counting 9 of those 16 and removing them, and (3) counting how many are left to determine the answer. One could hardly conceive of a slower and more inefficient system. It creates a three-step process out of what is normally a one-step problem. More important, it is a procedure that is not as effectively transferable to actual computation as other methods which are available. When the physical materials are removed, many children adopt a variation of this approach. They count up to 16 on a number line and count backwards 9 to determine the answer. When all instructional aids are removed, these children end up counting backwards from 16, 9 steps to arrive at 7. That appears like the imposition of an unwieldy and ineffective means of subtracting. While such an approach may be justified with some children for whom other methods have not worked, its limited usefulness does not seem to merit its being used as often as it is. Again, while the illustration used is specific, the problem of helping learners develop effective strategies is endemic and warrants a continual monitory of the procedures selected.

Pupil Performance

Data on pupil achievement are included in the statistical report on pages 106 and 107.

Summary and Recommendation

It is hoped that the attempt to point out ways in which this program might seek improvement is not misconstrued as an overall condemnation of its effectiveness. This is a good program, served by an able staff. It is doing an important job and doing it reasonably well. The program is capably administered and the district has made a good effort to improve it, as well as to implement innovative efforts such as the experimental program in two of the math labs.

In the light of the comments previously made, the following recommendations are offered:

1. That the district consult with the teaching staff involved to determine the effectiveness and desirability of maintaining groups at a maximum size of 15.

2. That the decision to open the math labs for instruction the first week of school and the calculated policy of teaching and testing at the same time be abandoned.

3. That examination of the effectiveness of teaching strategies and instructional approaches be conducted in a more formal and systematic manner.

4. That the decision to use an auxiliary group of students as

a means of maintaining minimal class size levels be reconsidered and other alternatives to the absentee problem explored.

5. That the effort to create small experimental programs which can be compared to the larger ongoing programs be continued. Such pilot projects should be conducted before important changes are implemented and be used to guide major decisions about the restructuring of present efforts.

Bilingual Resource Centers

Title I Bilingual Program

Function Number ~~85-91624~~ 5085-91624

Prepared by Dr. Wendy G. Oxman

PROGRAM DESCRIPTION

The Bilingual Resource Center Program was funded under Title I legislation in District 27 Queens, and functions as one of several parallel bilingual programs in the district. Four Title I schools have bilingual laboratories; five schools have laboratories funded under Title VII, four schools have Chapter 720 funds, and others function under tax levy provisions. Of the four Title I schools one has a teacher assigned on a half-time basis. The program's bilingual coordinator is assisted by a paraprofessional, as is each of the program's laboratory teachers.

Program objectives for the Title I laboratories include the improvement of oral language and reading skills in English, and of mathematical skills. Students were to attend the laboratory in groups of 15 for 45 minute periods two or three days per week, depending on need.

EVALUATION DESIGN AND PROCEDURE

The Title I evaluation design involves the pre- and post-test analysis of test scores on the Stanford Early School Achievement Test (SESAT) in grades 1 and 2 of the Stanford Achievement Test in grades 3 and above in Reading, Listening, and Mathematics.

PROGRAM IMPLEMENTATION

Visits have been made to each of the Bilingual Program sites. During these visits, a number of activities were observed that were clearly related to the major goal of improving oral and reading skills in English as well as math skills. For instance, during our observation, the teacher guided a group of second graders expressing the main idea of a story they had just read, and worked on vocabulary development with them. In another setting the second grade children prepared greeting cards with messages in both Spanish and English on them. The steps to be taken in making the cards were listed on a large poster. The teacher guided the children in reading these directions; the activity, which was highly enjoyable to the children, required their attention to clearly delineated sequences described in writing. In a third setting, the teaching of math skills was observed. Children practiced counting orally, by 2's, 5's and 10's, and then worked on related problems on "magic slate" - type exercise materials. Directions and instruction were given in both Spanish and English although the children counted in English, and the number symbols were always orally labelled in English by teachers and students. In other words, although teacher, paraprofessional and students conversed among themselves in both languages, English was used for the content of the mathematics lesson. In the junior high school setting, the group of 13 students observed were divided in two; one group working on a basic English as a Second Language lesson with the teacher, while the other worked with the paraprofessional on reading skills.

During a visit to one of the Title I laboratories, the bilingual teacher was conducting a current events discussion; she had asked her small group of sixth grade students to bring in articles about world news, and had some articles on hand; she asked some of the children to read the articles aloud and others to

guess where the event was occuring. She distinguished between local news and world news, and discussed some vocabulary words, such as "missle" and "alcoholism." The activity seemed appropriate for the age group; however, the children appeared to have great difficulty in reading and relating to the news articles. The content, despite its currency, seemed completely unfamiliar. The lesson was entirely in English; one wonders why, if world events discussions are considered important, they are not conducted within the children's classrooms, or conducted with increasing frequency over the grade levels so that it would not seem that children are first introduced to them in sixth grade. It would seem that the oral communications laboratory teacher, the bilingual teacher and the classroom teacher, along with the administrator, might work out some joint efforts along these lines.

During other observations, bilingual laboratory teachers were observed administering examinations to the students in English. Although these teachers speak English well, they have difficulty with pronunciation in some cases, so that the word "shove:" (tow, drag, push) was introduced and pronounced as if it rhymed with "stove", and the word depot pronounced as if it rhymes with "hot," for example. These difficulties may well reduce the reliability of the testing program.

A visit was made to one of the Title I schools in which the bilingual teacher was conducting a reading lesson in Spanish, with the aim of increasing decoding skills in the dominant language so that the skills could then be transferred to English. Materials for this approach, however, were scarce in this setting.

There seems to be relatively little individualization of instruction in the bilingual laboratories, little attention to individual children's strengths and weaknesses, and little thought given to particular ways in which the

bilingual teacher can be of most value to the child who is essentially an "intermediate" English as a second language student or a "compound" bilingual- that is, he/she learned both English and Spanish concurrently. The laboratory teachers appear to be good teachers, but the instruction seems to parallel classroom instruction rather than supplementing it. Moreover, most bilingual students also attend reading, mathematics and/or oral communication laboratory programs; it is important to consider the extent to which the child's instructional program has become fragmented into separate, parallel, and unrelated parts.

PUPIL PERFORMANCE

Data on the achievement of pupils on standardized tests are presented and discussed on pages 99, 104 and 105.

SUMMARY AND RECOMMENDATIONS

The Bilingual Resources Center Program appears to function as planned as a pull-out program. Materials seem appropriately selected and used in group activities. Problems previously identified in this program seem to have been addressed to some extent. In-service training for teachers and some coordinative functions have improved. However, there seems to be still more testing of each pupil than seem appropriate, and very little diagnosis and individualization of instruction, as had been recommended.

The following recommendations are offered:

1. Coordination among the various laboratory programs in which the child participates as well as between classroom teacher - laboratory teacher must be improved. A child who spends part of each school day in two or three different special programs in many cases finds his instructional program repetitive,

fragmented and unrelated to anything of importance in his life.

2. Selection of new materials and distribution of new and already available materials should be made with teachers helping in the process. There are feelings on the part of some teachers that the allocation of resources is inequitable; these perceptions, which may be false, may limit their effectiveness.
3. Workshops on individualizing instruction would be useful to staff members who are willing but do not seem to know effective techniques.
4. Make use of whatever opportunities there are to relate laboratory instruction to that of the classroom without duplication and to help the children maintain and strengthen ties to their non-bilingual classmates.
5. Attendance in school seems to be a problem in some laboratories; some children who are old enough to baby sit for preschool siblings are said to be kept at home while parents do necessary errands, particularly on certain days. Special programs in which parent volunteers (and children) organize and run a language oriented child-care service within the laboratory on such days might attract parents, help lab children and preschoolers through "peer" tutoring efforts.
6. Although it seem futile to recommend, again, a reduction in the amount of testing required in this program, it seems important to note that the annual overtesting appears unproductive and time-consuming.
7. Continue the effort to involve parents - perhaps through parties, performances, etc. and try to initiate personal contact with parents whose children are experiencing difficulty in school.

Oral Communication Laboratory Program
5085-91625
Function Number ~~85-91625~~, 5085-98723

Prepared by Dr. Wendy Oxman and Dr. Nicholas Michelli

PROGRAM DESCRIPTION

The Oral Communications Laboratory Program, in its second year as a Title I Program in District 27 Queens, was designed to meet the needs of students in grades 4 - 6 who were deficient in both oral language skills and reading skills.

The program was expanded in the 1978-79 school year, from the initial three schools to six schools, including the three initial schools. In each school, the program was to be implemented by a teacher and a paraprofessional with the assistance of the Program Coordinator. Video cameras, videotapes, and television monitors, cassette tape players, headphones, cameras, film-strips - sound machines, and other equipment and materials were provided.

Students were selected on the basis of test grades and teacher judgment regarding their ability to use oral language effectively in formal and informal classroom activities. Groups of 15 students were to attend the laboratory, and engage in language-development activities.

PROGRAM OBJECTIVES

The program's objectives were in improve language comprehension, language production and reading skills, as measured by pre- and posttest on the Listening and Reading subtests of the Stanford Achievement Test, and the Dailey Oral Language Facility Test.

PROGRAM IMPLEMENTATION

Each of the six schools in which the Oral Communications Laboratory Program was to be organized have fully functioning laboratories, with a full range of equipment, well prepared staff members, a wide variety of highly structured activities, and groups of students who have met the criteria for participation. Two of the six teachers were teaching in the program for the second year; one teacher had left for a non-teaching employment opportunity in the theater. Each laboratory has been well organized; training by the project coordinator, using ideas contributed by the teachers and others, appears to have contributed to the finding of consistence among the laboratories. No major changes, save for the expansion, have occurred between 1977-78 and 1978-79; minor changes reflect, in part, recommendations of the evaluators made after the first year of operation. With the exception of one lab in a crowded school, all labs occupy full classroom-size quarters, subdivided by movable partitions, shelves, cabinets, etc. The rooms are attractive; movies and theater posters, charts, pictures, playbills, mirrors, sets of rules, procedures, etc., decorate the walls. Equipment is in constant use.

Students are assigned in small groups to a particular activity. Although some students, at the start, seem reluctant to appear on videotape, to record their voices, all do participate and appear to overcome their fears. The atmosphere in the labs is highly supportive; during observations, no child was ridiculed by another for any reason. Teachers use preparation periods to help children prepare, in privacy, for presentation in the lab groups, where necessary. Each student has his/her own folder with a log or checklist of activities in which he/she has participated; by January,

many folders were full of written work, done in preparation for the highly motivating oral activities. High levels of productivity continued throughout the school year.

Consideration is given to linkage with on-going work in the students' classrooms and with school activities in general. In one laboratory, groups of students were out "on assignment," photographing and interviewing school personnel, including the principal and a lunchroom aide, for a photographic essay to be presented in second grade classes for their unit on "Community Workers." The students had prepared their interview schedule in advance, and would write up the script for their presentation after completing the interviews.

The videotape equipment was used continuously; students took turns at roles such as "director," "talent," etc. On camera, they presented commercials, self-introductions, news programs, and demonstrations, with full verbal explanations. Following these demonstrations (juggling, for instance), students rated themselves (ok, but could have done better; **Very good; I've really got the idea; ***Super, an academy award performance) on a series of criteria, including "Speak loudly, slowly, clearly.

A wide variety of activities were planned for and carried out in the labs. All were related to improving reading ability through oral communication and the development of poise and self confidence. Anong the specific activities observed by the evaluators were:

1. The planning and presentation of a "news broadcast". Students engaged in the writing of specific news stories which required some previous reading of current events. As in all activities

culminating in video taping, students assumed different roles in addition to writing such as "talent" roles (reading of news on camera) and technical roles (operating equipment, holding cue cards, handling props, etc.).

2. Developing facility with pantomime. Students presented situations in pantomime either based on suggestion from the teacher or their own ideas. Students pantomimed emotions such as happiness, sadness, and surprise and such activities as preparing to go to sleep, washing in the morning, and eating breakfast.

3. Presenting role play experience. Students acted out segments in the lives of famous Black Americans and other historical characters. This activity involved reading biographies, selecting episodes appropriate for role playing, and producing the tape.

4. Engaging in "point of view" role playing. This activity particularly involved creative input. Students took familiar fairy tales or stories and presented them from the perspective of an unusual character. One tape observed, for example, told the story of Cinderella from the perspective of the wicked step-mother.

5. The use of puppetry. Students made puppets and used them to tell original stories. This mechanism seemed particularly useful in overcoming shyness. Students were able to express their views

from the perspective of a puppet rather than as themselves.

6. The use of open-ended stories in listening centers. Students listened to highly motivating stories leading up to a climax, but with the ending omitted. Students then are asked to write or tell alternative endings requiring them to relate logical elements of the story and to use creativity in generating alternative endings.

7. The production of photo-essays. In this technique students develop visual images to link elements of a story together. They use instant-photo cameras and other cameras to document their stories. In examples seen, students photographed field trips and school personnel and used the photographs as a basis for writing essays.

8. The presentation of science experiments. In this procedure students selected simple science experiments and prepared video-tape demonstrating the experiments. The skill of explaining a procedure to someone else clearly and succinctly was emphasized.

9. The reading of stories to younger children. Students selected and read appropriate stories to younger children. The activity required the development of poise in speaking to groups and the development of self confidence.

10. The development and presentation of commercials. Students were required to select products, often fictitious, and develop persuasive commercials for taping. These sometimes involved

demonstrations and the production of "packages" for the products.

11. The preparation and presentation of an autobiography. Students wrote and presented autobiographical sketches.

12. The development of self-evaluation skills. Students were asked after each project and individual performance to assess their success, using the "academy award" techniques reported above. In one lab the teacher prepared buttons which were awarded to students who demonstrated that they could properly operate video equipment. These awards were proudly worn by the recipients.

As noted, motivation in the OC Labs is very high. Students were heard to cheer loudly when "picked up" from their classes to go to the lab. Non-participating children frequently asked to be included. Students seem to enjoy close, informal relationships with the lab teachers, and although the labs are very busy places, with many complex simultaneous activities, conduct never appears to be a problem despite the fact that many students are considered behavior problems in their classrooms.

STUDENT REACTIONS

Each oral communications lab teacher asked all students to complete an open-ended survey in the last weeks of the school year. Students were asked what they liked about the oral communication lab, what they disliked, and in some cases, what they would like to do in in O.C. lab next year.

In answering the first question, what did you like, students responded at length identifying virtually every aspect of the lab. As expected, students particularly enjoy working with the equipment. Typical responses were:

> I like everything I do in the O.C. labs. I especially like using the equipment. My favorite project was the improvisation, and much much more!
>
> I like to make boy puppets and I like to see myself on TV. I love to make up stories and I like to hear stories in listening center.
>
> Oral communications lab is fun. I liked when we went on a trip. I like the listening center and the puppets and the squiggle show. I like to be a camera person.

When asked what they disliked most students left the space blank or indicated that they liked everything. The aspect of the lab most often disliked was the listening center. probably because it represents the least "active" center in the lab.

In terms of next year, a number of students asked for more video activities or for more time in the lab.

In general, the enthusiasm we observed in the labs was confirmed by the student comments.

SUMMARY AND RECOMMENDATION

The Oral Communication Program has been implemented as planned, with the expansion to twice the number of schools served handled with efficiency.

On the basis of on-site observations, the program is successful. All activities appear to have a relationship to important reading skills. Students and teachers are motivated and interested.

There has been external confirmation of the apparent success of the program. During the school year the program was selected as recipient of the "RACET" award - The Regents Administrative Council on Educational Telecommunication. Replication requests have been received from two New York City districts. The program was presented as a positive example of a Title I program at a city-wide parent program. The program has been selected for visitation by a number of other districts.

Our overall impressions of the project are very positive, with a large measure of the credit for success going to the director for his ability to plan and carry plans to reality. We would make the following recommendations:

1. Priority should be given to the preparation of a comprehensive curriculum guide/teachers manual setting forth the objectives of the program and suggested lessons. This will be important for further expansion of the program in other district schools and for dissemination outside the district.

2. A greater emphasis on fostering creativity in children is needed. While activities were more creative than in the first year of the program, further flexibility is needed. Students should be given more responsibility for the selection of content for their presentations. Teachers more often than not in observed classes gave the students topics for biographies, pantomimes, etc. Children should be encouraged to select their own appropriate topics.

3. More cooperation, articulation and linkage should be developed among oral communication lab teachers, other lab teachers and

classroom teachers. Sharing of diagnoses and coordination of the development and reinforcement of reading skills would enhance all programs.

PUPIL PERFORMANCE

Data on pupil achievement is presented on pages 99 and 103.

Optional Assignment Program
5085-91627
Function Number ~~85-91627~~, 5085-98724

Prepared by Dr. Paul Longo

PROGRAM DESCRIPTION

The Optional Assignment Reading Program conducted by District #27 was organized as an aid to those students who were eligible to receive Title I services but opted to attend a school other than that officially designated for them. A student's official school is determined by residence, with boundaries for each of the schools set up by school district administrators and drawn up to equalize pupil population with building capacity. Students living within the confines of the district are free to enroll in a school other than that designated for them by the official boundaries that have been drawn. Pupils who have been determined to be Title I eligible carry with them their right to participate in programs of special help that are offered.

To accommodate these pupils, the district employed an educational assistant (EA) who was assigned to the regular reading lab program being conducted in the school. The EA worked with the students who exercised their options to attend a school other than that assigned. The number of such pupils vary each year and the district must make constant adjustments based on a initial prediction and then followed-up by an actual count of optional assignment (OA) students. School officials projected that this year's program would accommodate about 300 pupils who would be spread out in five elementary and two junior high schools. Educational assistants hired out

of optional assignment funding were accordingly assigned to reading labs in these schools.

An official count conducted later in the school year revealed a total of 288 OA students, quite close to the 300 that had been projected. The distribution of pupils was not as accurately predicted and a sixth elementary school, which had a large roster of OA students, was assigned an educational assistant later in the school year. The staff, after adjustments, consisted of six full-time and two half-time members and a full-time teacher coordinator. The coordinator was responsible for the overall supervision of the program and the training of the staff.

PROGRAM ORGANIZATION

The reading lab programs to which the OA educational assistants were assigned were organized to conduct a program of reading remediation. Students who had been found to be a minimum of one year below grade level on a standardized test and met the Title 1 criteria, were eligible to participate in the program. The Stanford Achievement Test, Reading (SAT) was used to determine a student's grade level. The test was administered in the fall and spring of the year, serving as a means of screening participant entrance into the program and as a measure of student growth during the year.

The program conducted in the reading labs was based on a diagnostic-prescriptive approach to learning. A local test served the purpose of diagnosing student weakness in reading. Specific areas of weakness are identified by the test, which allowed the staff to develop a program of remediation that was tied to the improvement of particular skills that a

student lacked. Instruction could then be specific to diagnosed need. The labs contained a wide variety of reading materials and equipment designed to aid in this process. A considerable number of the aids were of a self-instructional nature, freeing the teaching staff to work with the students on a more individual basis.

Students attended the lab for 45 minute periods, three times a week. As with other remedial programs in the district, class size was set at a minimum of fifteen pupils per session. To assure that the minimum number of pupils were available each period, most of the labs set up instructional groups of eighteen students. Each lab was staffed by a teacher and two educational assistants, one of whom was assigned to work with the OA children. Employing the prescription which had been developed for a student the optional assignment EA, under the overall guidance of the teacher, implemented the remedial program that had been developed. The instruction was intended to make full use of the equipment available and teaching techniques were to be both individual and varied. The program and the role of staff is best described in the district's funding proposal:"

> The 7 Educational Assistants will under the supervision of the teacher assigned as coordinator, work daily with certain children who manifest reading problems. Reading needs will be assessed according to the District-wide testing program.
>
> Individual deficiencies will be diagnosed by program pre-testing. In the reading laboratory, apart from the daily class, during all periods of the day, the paraprofessional (Educational Assistant) will work with at least 2 and no more than 5 children who manifest extreme reading deficiencies.
>
> The reading information and lesson plan that is being implemented in the daily classroom curricula, will be supplemented in the lab to strengthen reading disabilities with the assistance of the Educational Assistant. This information

will be disseminated in a specified and separate area, other than the general classroom. They will be placed as follows: (1) P.S, 63, (1) P.S. 90, (1) P.S. 114, (1) P.S. 146, (1) P.S. 207, (2) J 180, and (1) J 202. They will work in 45 minute intervals, 5 intervals a day. The individual children will receive at least a minimum of three 45 minute periods and a maximum of five 45 minute periods a week. The average per child will equal 135 minutes per week.

EVALUATION OBJECTIVES AND PROCEDURES

The district set the goal of improving the reading skills of the optional assignment children as the sole objective of the program. As a means of determining if the goal had been reached, a comparison was made of the amount of growth pupils had achieved as measured by the test. The test was administered to all of the OA pupils participating in the program in the early fall and spring of the 1978-79 school year. Scores attained at the conclusion of the year were contrasted with those recorded in the fall. Success for the program was to be determined by the achievement of statistically significant differences in these test score results. A total sample of the pupil population was used in these comparisons.

In order to determine if the program was being conducted according to the specifications set forth in the proposal, a series of visits were made to each of the seven school sites. Each reading lab was visited twice during the school year. A visit was also made to one of the training sessions held by the coordinator. The program staff was observed in the conduct of the program and interviewed about how it is functioning. The results of those observations will be offered in narrative form in the following section of this report. The results of pre- and post-test comparison and inferences drawn will be presented.

PROGRAM OPERATION

The Optional Assignment Program was organized and operated in a manner that was very consistent with the description offered in the proposal. The reading labs were able to accomplish a considerable degree of individualization. The labs were well supplied with different instructional materials and the teaching staff, including the OA educational assistant, made reasonably good use of them. The suggested diagnostic-prescriptive approach was employed and most instruction appeared well suited to the reading level of the student. The individual pupil folders which the program required were maintained, consistently updated and were readily accessible. The teaching staff appeared to have done an effective job in planning its instructional program. The record keeping indicated that the reading activities which students engaged in were varied and on-site observations confirmed this.

Within the confines of the instructional program, the educational assistant appeared to be well used. During observations, the assignment of teaching duties was well defined and the educational assistants seemed to have a clear understanding of their responsibilities. The implementation of instructional activities was generally handled with skill. The staff knew how to organize their groups and they were able to use a variety of materials in their teaching with ease and assurance. Overall, the district did a good job in its selection of staff. There were condiderable demands upon the working relationship in a classroom when three individuals share the teaching responsibilities. The relationships invariably functioned quite smoothly. Some of that may have been a product of circumstances, but surely a portion of it was attributable to the staffing that had been done and

the fact that the program did an effective job in delineating staff roles and responsibilities. The classroom management aspects of the program seemed very capably handled.

The training of staff was accomplished by pooling the efforts and talents of the coordinators of several of the district's reading programs. The different programs were similar in nature, dealing with a population in need of reading remediation and using a diagnostic-prescriptive approach. The shared arrangement for training staff seemed to work very effectively. It allowed each of the programs to draw upon a wider range of personnel (and skills) for staff instruction. In actual practice it enabled the district to develop good coordination among its programs and to maintain a cooperative relationship among coordinators, as well as teaching staff.

The training sessions seemed to be extremely well planned. Those conducting the workshop came prepared with an agenda, a clear set of goals and a carefully thought-out series of instructional acitivities. The skills of individual staff members were also employed. The training offered was well organized, and effectively presented. There is little question of the sessions' usefulness to staff. One question should be raised, however. The combined sessions also resulted in teachers and educational assistants consistently meeting jointly. It might be fruitful to consider the possibility of conducting some of the sessions for the EA staff separately. There are points at which their responsibilities, their instructional needs, and their personal concerns differ from those of teachers. The combined sessions cannot provide an adequate outlet for the expression of these needs. The conduct of such sessions need not be frequent, perhaps only two or three a year, but their potential usefulness ought to be considered.

In all but one instance, the district was able to provide full classrooms for the reading labs attended by the OA students. The facilities were spacious, and needed to be, to allow the three staff members to work comfortably. The size of the instructional groups also demanded this. While groups of 17-18 would not be considered large for a regular classroom, the intent and purpose of a reading lab could make groups of this size a problem. Space is required for specialized equipment and materials that allows an individualized program of instruction to function. Learning stations must be set up around the classroom which give students access to self-instructional and programmed learning materials. The hardware alone demands space, caution and care that a regular classroom teacher does not have to contend with. The situations, on a purely physical level, are not comparable. Beyond this, the instructional approach is very different. The reading labs have been established to deal with a population of students who have typically experienced failure and frustration in their attempt to learn how to read. The response of educators has been to create an environment in which they can receive special attention and help. Most of that help is predicated upon the increased availability of the teacher to offer individual instruction because the pupil population is manageable and self-instructional equipment is available.

The question of what is an appropriate class size is not an easy one. A large part of the answer to that question is dependent upon what the educational intent is and what is considered the primary instructional vehicle. If, for example, one believes that instructional aids and equipment will provide the major impetus for learning, then the labs could accommodate

larger numbers. Recent evidence, however, does not offer a great support for such a view. Educational aids, effectively used, can be a great help. Reading is not a mechanical process, however, and much depends on attitudes. Many students are in need of the encouragement and motivation that can best be provided by a sensitive teacher familiar with their need. The personal contact afforded by the lab can be diminished by increasing numbers of pupils. Group size is an area that bears watching.

As noted above, the equipment which is available can be very helpful but its proper use is dependent upon careful guidance from the teaching staff. There were observed instances in which an unsupervised student did not make proper use of these self-instructional materials. The vast majority of the time such equipment was properly used but there were, as one would expect, abuses. That underscored the need for teacher availability in order to supervise these activities closely. It also suggested that caution must be exercised in what equipment is employed with which students. There were materials available which were commonly used, such as "Spellbinder," which do not offer convincing evidence of their ability to remediate those skills which the students who used them lacked.

In regard to the overall instructional program, a final point should be made. The teachers in the labs are clearly knowledgeable and skilled. Their guidance of the educational assistants, organization of the instructional program and choice of teaching strategies were good. The children they served were in need of the additional help and surely appeared to profit from it. The staff should be constantly alert, however, to the tendency to separate the activity we call reading into too many separate, distinct elements. There is a danger that having divided the whole into so

many parts, the individual reading skills no longer equal the whole. The reason the separate skills are taught is to enhance the act of reading. When the teaching of skills begins to assume a disproportionate amount of the instructional time, it is possible that we are beginning to substitute means for ends.

The potential problem described is not at all limited to this district. It is a phenomenon that is common to the teaching of reading throughout the field of education. It is to a large extent, accepted current practice. It is possible that some aspects of this view should be challenged. Surely, it is worth our attention and concern. If we continue to dwell on the analysis and improvement of the separate skills of reading, we can lose sight of the main goal. The tests we use identify the lack of such skills and the prescriptions we devise attempt to remediate them. That is well and good, useful as well as necessary. But such activity should not be entered into at the expense of a great deal of actual reading. That activity should remain paramount. It is not always clear that this is so. Too often extensive reading is sacrificed to intensive skill development.

It is possible, for example, to teach a child how to pick out a main idea by having them do a great deal of reading, assuming that this will be an <u>outcome</u> which will be sought at a later time. The absence of this skill in one who is able to read with relative ease would then call for the creation of a special instructional effort to produce it. It is also possible to assume that this skill is so central to reading that it should be consciously taught to even a very poor reader who is struggling badly. That would

necessitate the use of certain materials designed for that purpose and limited in scope to the building of this skill, the outcome of which will be improved reading. In this approach the skill has now become central and the reading an outcome, used mainly to enhance the skill. The trade-off is surely not that simple but something akin to this shift in priorities does seem to occur at times and should be guarded against.

PUPIL PERFORMANCE

Information on pupil achievement is included in the statistical report in pages 98, 99 and 102.

SUMMARY AND RECOMMENDATIONS

In terms of the goals and objectives set for it, the program seemed to operate successfully. Based on visits to each of the reading labs serving optional assignment children, one can conclude that the coordinator and the instructional staff served the program in a manner consistent with the purpose for which it was designed. The educational assistants were competent, knew their responsibilities and worked well with the children. The program of training instituted was intelligent and well-orgainzed.

This program appeared to be effective for students. Those who participated needed the individualized help they were receiving. While in actual practice the OA educational assistant did not work exclusively with optional assignment children, they were well used. The number of optional assignment students in each session can vary considerably and the staff made intelligent adjustments to this reality in the way they allocated instructional resources. In the interest of maintaining program efficiency, the following recommendations are made:

1. That a continuous monitoring of the effect of class size upon the functioning of the reading lab be conducted by the district.
2. That the staff seek to maintain a balance between the need to improve particular reading skills and the time devoted to having pupils read.
3. That the staff give consideration to the limitations and possibilities of materials and equipment in the reading lab, stressing how they can be used most effectively and how their misuse by students and/or staff might be minimized.

Evaluation and Parent Involvement

Function Number ~~85-91621~~ 5085-91621

Final Report

Prepared by Dr. Elaine Chapline

Evaluation activities were carried out by eight consultants who have met the Board of Education's job specification requirements. Each of the program sites was visited according to the schedule planned (i.e., four times each to Reading Resource Laboratories and Mathematics Resource Laboratories, etc.). Consultants prepared Interim and Final Reports and reported orally to the Community School Board and the Title I Advisory Board their perceptions of the programs.

A significant part of the Evaluation Team's efforts called for participation in the parent involvement program. Parents who had been in the training program sponsored by the District-wide Title I Advisory Board accompanied professional educators on visits to program sites. Several of the professional educators commented favorably about the perceptiveness of the parents and the value of their input.

PARENT INVOLVEMENT PROGRAM

A series of workshops for parents of Title I eligible children has been held. These workshops were designed to carry out both the letter and the spirit of the federal regulations' requirements that parents be fully informed about the Title I law and regulation. In order to carry out this important role in influencing the local program, parents need to understand the operation of Title I programs. It should be noted that the 1976 federal regulations stipulated that local districts are responsible for providing for all advisory council

members "appropriate training materials and orientation which will assist them in carrying out their functions." These advisory councils exist in each school (Parent Advisory Councils, PAC's) and on a district-wide basis (Advisory Council for Reimbursable Funds, District 27 Queens). Since the regulations have been in operation, it has been necessary to describe the nature of the parent training along with the description of the pupils' program in the program proposal.

Workshop Program: In accord with the proposal program, a series of workshops, for parents of Title I eligible children was held to acquaint parents with the design and operation of the Reading and Mathematics Resource Centers. These sessions focused on: Title I objectives, supplementary nature of the program, diagnosis of children's learning needs, and use of various instructional strategies designed to meet pupils' needs. Reading workshops were conducted by Dr. Lucile C. Perryman on November 8 and 15. The mathematics workshops were conducted by Dr. Susan Turkel on November 28 and December 1. The workshops were held at PS 223 on the mainland, from 9:30 to 11:30 a.m. and at PS 183 in the Rockaways from 12:30 to 2:30 p.m.

A special workshop program was held on January 23 at PS 63 in the evening. This program was planned specifically to provide opportunities for working parents to learn about the facets of the Title I program. The workshops were: Oral Communication lead by Mr. Kenneth Foreman, Bilingual Education lead by Ms. Wanda Rivera, Elementary Reading by Mr. John Formanek, Junior High Reading by Mr. Warren Kramer and Mathematics by Dr. Paul Longo. The leadership of District 27 was fully represented and participated in the program by speaking about priorities and projections in the district's program.

Evaluation Training: A training program was specifically directed to aid parents in carrying out the evaluation function mandated in the Title I legistlation. This series of workshops focused on: program objectives, program implementation, diagnosis of learning needs, provision for individual differences, role of testing, observational schemes for use in field observations, and the ethics and procedures for field observations. These sessions were held on January 11, 17 and 25, and February 1, under the direction of Dr. Gloria Harris. On each date, morning sessions were held at PS 233 on the mainland from 9:30 to 11:30 a.m., while afternoon sessions were held at PS 183 in the Rockaways from 12:30 to 2:30. A total of 32 women participated in the evaluation training.

After having attended all four sessions, a person became eligible for participation in the field component of the parent training program. These trained parents were scheduled to visit Title I resource centers in small groups of two or three with a member of the professional evaluation team.

A review session was held on March 21 for people who had been part of previous or current Parent Evaluation teams. Participants reviewed their field procedures with Dr. Harris. She organized the spring field visits schedule, coordinating parent teams' with professional evaluators' schedules.

When the round of field visits was completed, summary sessions were held at which the participants considered what they had seen and how they would organize their reports. (Periodic reports were made by participants to the Title I Advisory Board). The participants offered useful detailed information about the way the program was functioning. They offered suggestions for program improvement and innovation. They reported formally to the Executive Board

of the Title I Advisory Board and the Director of Reimbursable Programs and to the full Advisory Board.

Parents in their statements about the Parent Education Workshops and field visits seemed positive and enthusiastic. They felt that a parent training program needs to be maintained in the district. An outreach to increase the number of parent participants was recommended.

The parent program for the year ended on a positive note. It had gotten off to a slow and uncertain start, however, since it was originally disallowed as part of the program proposal. There needs to be some resolution of the questions that recur about the nature of the parents' role in the education process and about appropriate compensation for the expenses parents incur during their participation. This resolution needs to take place at the level of the appropriate offices of the Board of Education of New York City and the State Department of Education. From the local point of view, the nature and value of parent participation has been clear and district administrative support has been present since the program's inception.

District Conference: The Title I Advisory Board sponsored its second annual conference and workshops on Tuesday, June 19 at PS 197 from 5:00 to 10:00 p.m. The theme was: In the International Year of the Child-Parents Reaffirmed their Role in Education.

As parents arrived and registered for the conference (receiving a program, materials on how parents can help children, etc.) a supper was ready for them and their children. Staggered serving times were planned so that there would be comfortable eating conditions and brief waiting times.

The formal program began after six in the auditorium with a slide show about Title I, produced in the district, and a panel composed of State Education Department and New York City Reimbursable Program representatives. They provided information on the nature, scope and prospects of Title I. The District 27 program Director commented on the nature of the future program.

Representatives of District 27 included the School Board President and some members of the Board, Superintendent of Schools, Deputy Superintendent, Director of Reimbursement Programs, Director of Guidance, Coordinators of the various programs, specialists, teachers and paraprofessionals from the program. The support from the staff, attested to by this participation, was very strong. Each of the staff people contributed to the conference, as a panel member, workshop leader, etc.

Participants were provided with an evaluation form in their envelope of conference materials, along with a pencil and note pad. A total of 65 people turned in completed evaluation forms at the close of the conference. The general picture which emerged from the participants' responses was very positive. The majority felt that the conference was helpful, useful, interesting and worthwhile.

The ratings by participants summarized in percentages, are listed below:

Item	Rating	Percent
1. In helping me with my child, this conference was	Poor	2
	Not very helpful	5
	Helpful	17
	Quite helpful	20
	Very helpful	56
2. In helping me understand the programs in my school, this conference was	Poor	0
	Not very helpful	5
	Helpful	20
	Quite helpful	25
	Very helpful	50

Item	Rating	Percent
3. In helping me know what to do in my school's PAC, this conference was	Poor	0
	Not very helpful	13
	Helpful	30
	Quite helpful	16
	Very helpful	41
4. The presentations at this conference were	Poor	0
	Not very interesting	5
	Interesting	25
	Quite interesting	27
	Very interesting	43
5. The workshops at this conference were	Poor	0
	Not very interesting	2
	Interesting	21
	Quite interesting	25
	Very interesting	52
6. Overall, this conference was	Poor	0
	Not very worthwhile	2
	Worthwhile	21
	Quite worthwhile	25
	Very worthwhile	52

In addition to the ratings, participants had space to comment on the conference. A total of 24 people wrote comments. The favorable comments are typified by: "These conferences are very important," "A worthwhile affair," "I enjoyed this conference very much and will attend next year," "I enjoyed myself very much. I suggest that we have more conferences in the future," "This conference was very interesting and I'm looking forward to the next one," "I felt that this was a very interesting and helpful conference," and "I truly enjoyed the workshops."

Almost half of the people who commented offered suggestions for improving the conference. Seven people suggested that the conference be held earlier in the school year, one suggested holding the conference before a holiday and one suggested using a Saturday. A few recommended holding more than one conference per year or a larger conference. Seven people dealt with the program, suggesting

that more time be allotted to workshops and less to formal speeches. Improved bus arrangements, more punctual timing and additions to workshops and resources for parents' use were also recommended.

The conference, in summary, seems to have made a valuable contribution to the parent involvement program. It appears that the base of parent participation was broadened by this effort since some people who attended this event had not previously been part of the program for parents.

Overall, the parent involvement program that is in operation appears to be logically related to the stated objectives. Both the spirit and the letter of federal regulations are being well served. It is recommended that a needs assessment be conducted so that program planning can take into account the diverse needs of the Title I parents. The future program should provide learning opportunities for parents who have leadership potential and are knowledgeable about the program, as well as continue to provide opportunities for parents who are new to the program.

Statistical Analyses and the Reporting of Data

Prepared by Wendy Oxman

For the 1978-79 school year, District 27, along with all other school districts in New York State, was required to report the result of the testing program for the evaluation of funded programs in a new manner. Rather than reporting statistical summaries, it was necessary to prepare computer tapes or cards reporting information about each individual participant. The process of preparing the data recorded by the teachers is reported in this section. The assignment of identification numbers, the conversions of reported reading and mathematics scores to the required NCE's, and the conversion of reported attendance data are presented in this section. In later sections, statistical analyses are presented, along with a word of caution.

THE REPORTING OF DATA

A series of steps were necessary in organizing and reporting data: assignment of identification codes, conversion of raw scores to normal curve equivalents, and conversion of reported attendance data.

Assignment of I.D. Codes: Nine place identification codes were assigned to each student. If a student participated in more than one program, he/she had to be identified by the same code. If a code had been assigned the previous year, and the student was still a participant in a funded program, the same codes had to be used. The following procedure was used in the assignment of identification codes:

1. Lists of student names with 1977-79 eight digit identification numbers were supplied to the district from the 1978 records. Teachers entered these numbers as appropriate on the data sheets.

These numbers were expanded to nine digits by adding a zero at the beginning of the number. (Digit 1) These codes were composed of Digit 2-3 = last two number of school number (i.e. 42, 83 = P.S. 42; 83=P.S. 183; 15=215) Digit 4-7 = sequential numbers within school (i.e. 0001, 0002, etc.) Digit 8 and 9 were alphabetic - the first two letters of the student's last name. Thus an identification code might be: 0150038AL

2. For students without teacher entered identification codes, new codes were assigned to students in reading programs and entered on the reading data sheets. The new codes followed the same pattern with two exceptions: the whole school number was assigned as digits 1-3 (i.e. 042, 183;215), and digit 4 indicated the reading program the student was in: (Title I, PSEN Elementary = 2, Core = 3, optional assignment = 4, Categorical Reading = 6, Chapter 74 = 7, PSEN Jr. High = 8). Digits 5-7 were sequential integers and 8 and 9 were the first two letters of the students last name. Such a code might be 1987004RI.

After identification codes were assigned to all 8000+ students in the reading program, the student's name was located on the mathematics data sheet if he/she was a participant in both reading and math. Thereafter, the same code was assigned to bilingual students who were also participants in either reading and/or math labs. Students who were <u>not</u> in one of the reading programs, but in math, oral communications and/or bilingual programs received a new code with 5 as the fourth digit. A code like this would be: 1975029GR.

This procedure assumed that all previous identification codes were correctly and legibly assigned by teachers, that teachers correctly identified students in multiple programs and/or researchers located the corresponding names on the various data sheets, and that each identification code was therefore discrete and no student was assigned more than one identification number. There were, however, no checking or verification procedures applied to insure the meeting of this requirement.

Conversion of Reading Raw Scores to Normal Curve Equivalents: Raw scores recorded by teachers on pre and post measures had to be converted to normal curve equivalents (NCE's) (or percentiles). Although the raw scores were generated through out of level testing, the NCE's (or percentiles) had to reflect the student's positions relative to the normative group's performance at their own grade level in fall, and in spring. Thus, the out-of-level test given had to be equated to scaled scores, which cross grade levels, and then to projected scores on the on-level test. This procedure was accomplished for mean scores on each subtest, for each grade level (2-9) separately for pre and post tests. Using the projected on-level score equivalent to the pretest mean, (projected on-level mean) and the standard deviation reported for the on-level mean, z scores and NCE;s were derived for each pupil's score. The first grade procedure had to be further modified; the standard deviation was estimated from the percentile norms on the SESAT tables.

Conversions of Mathematics Grade Equivalent to Normal Curve Equivalent: Grade equivalents recorded by teachers on pre (form A) and post (Form B) measures were converted to Normal Curve Equivalents. Mathematics testing was on-level testing; however, grade equivalents were not acceptable for 1979 reporting. They were converted to NCE's by:

a) assuming the normative grade equivalent for each time-of-testing and for each grade

b) determining the "probable errors (PE)," based upon the 75th and 25th percentile equivalents, as reported in the test manual for each grade and converting these to standard deviations, (assuming normal curve and using the standard procedure (SD=1.4826PE) reported in Garrett, 1966, p. 99).

c) converting each grade equivalent to a z score and then an NCE using the normative grade equivalent and the derived standard deviation.

Conversion of Reported Attendance Data: It was necessary to report figures representing total reading instructional time. This figure was obtained using the following procedures:

1. It was estimated that there were 135 days of school attendance between pre- and post testing dates of October 1 and May 15, and assumed that each student received one hour of "general aid" reading instruction for each of these days; if he/she was absent, this instructional time was made up upon his/her return.
2. Teachers recorded attendance for a 31 week (93 day) period which included two weeks before pre testing and two weeks after post-testing. These figures were adjusted by .87 to reflect the 27 week (81 day) period between pre and posttesting.
3. Some teachers recorded total school attendance for a 33 week (165 day) period rather than lab attendance (3 days per week, or 33 weeks or 99 days possible. These figures had to be adjusted by .60, and then further adjusted by .82 to reflect 27 weeks

(81 days) period between pre and posttesting. For these students, attendance was multiplied by .49.

4. Students who attended a reading lab program plus the Oral Communication Laboratory Program were assigned to receive twice as much lab instruction designed to improve reading as those who did not. There were very few students who were Title I eligible and who participated only in The Oral Communication Program; the reading scores of the students in Oral Communication Program are those reported for reading labs.

STATISTICAL ANALYSES

In this section, the results of the testing program for the funded programs in District 27 are presented. Children who participated in a program designed to improve reading skills (Title I, PSEN, Optional Assignment, Oral Communications, Core, and other programs) took the Stanford Early School Achievement Test (SESAT II) if they were in grade 1, Stanford Achievement Test (SAT): Primary I if they were in second grade, and, for each subsequent grade level, took a level of the SAT one level below that for which norms were reported for their own grade. Form A was used for all grades and for both pre- and posttests. The subtests "Letters and Sounds" and "Aural Comprehension" so were analyzed for first grade, subtest in "Reading Comprehension" and "Word Study Skills" were analyzed for grades 2 and above, except for the Oral Communication Program for which total reading scores were recorded. For this program, scores in listening (receptive language) were analyzed as well.

For each student and for each subtest, normal curve equivalents (NCE's) were produced in the manner required by the State and described in an earlier

section of this report. Mathematics test data, based upon the on-grade-level administration of the Stanford Diagnostic Mathematics Test (Form A pre, Form B post) were also converted from the grade equivalents that were recorded, to NCE's. Subtests in Number, Computation, and Application were analyzed for the Mathematics Test.

The Bilingual Program's testing program included SESAT I for grade 1, SESAT II for grade 2, and SAT levels like those used in the reading programs for grades 3 and above. Listening and mathematics subtests of the SAT were also used as measures of oral skills in English, and mathematics.

DATA ANALYSIS

A series of correlated t test between the pretest NCE which is the same as the predicted posttest NCE, and the posttest NCE was conducted, one for each grade level in each program. These analyses constitute "Model A" analyses, and involved conversions, in reading, from out-of-level test scores to on-level, and from raw scores to Normal Curve Equivalents.

Tables 1 through 4 present the results of test analyses in programs where the objective was improved reading ability. For the most part, first and second grade improvement over expectation occurred, with the exception of second graders in the Optional Assignment Program, who declined in Word Study Skills. Third and fourth graders did not do as well as expected, except in the Oral Communication Program, where total reading scores exceeded expectation. Fifth and sixth graders improved their scores, relative to expectation, in most programs, although the gains above expectation were not significant in all settings. Substantial sixth grade improvement above the expectation was noted in every program. Above the sixth grade students in most programs improved significantly

above expectation in reading comprehension. The results of the analyses of Word Study Skills was mixed above sixth grade; in some settings scores improved, while in others a decline was noted, compared with expectation

Analyses of the language skills test given in The Oral Communication Program indicate that students except in third grade, improved significantly above expectation in listening skills and all grades recorded substantial increases in productive language facility.

Table 5 presents the analyses of the test results for the District 27 Bilingual Program. In Reading Skills Grade 1, tested with the on-level SESAT 1 Test, made significant progress over expectation, as determined by the Model A analysis performed, on "Aural Comprehension," although not in "Letters and Sounds." In grades 2-5, declines in relative position were found, although it must be noted that the children were tested below grade level. Sixth grade declines in relative position were noted only in Word Study Skills; above the sixth grade, students maintained their position relative to their peers, but did not advance.

Mathematics test analyses, using pre-post correlated t test analyses of raw scores, shows significant increases at all grade levels. In listening skills, students in grades 3-6 showed significant increases in their abilities to comprehend oral English.

Table 1

Analyses of First Grade Reading Test Results (SESAT)

Grade	N	Mean Raw Scores		Mean NCE's		Change	t_{corr}
		Pretest	Posttest	Pretest	Posttest		
Title I							
tters & Sounds	318	20.56	34.70	27.97	38.49	10.47	7.75***
ral Comp	316	12.96	17.11	28.71	38.18	9.58	4.56***
Optional Assignment							
tters & Sounds	12	19.75	34.50	26.17	37.75	11.58	1.79
ral Comp	11	11.58	15.82	21.48	31.20	10.87	1.31
PSEN							
tters & Sounds	49	20.59	34.19	28.03	36.84	8.86	6.40***
ral Comp	49	13.76	18 33	32.93	44.76	12.06	7.01***

*** $p < .001$

Table 2

Analyses of Title I Reading Test Results

Grade	N	Mean Raw Scores		Mean NCE's		Change	t_{corr}
		Pretest	Posttest	Pretest	Posttest		
Reading Comprehension							
2	412	40.02	67.58	50.02	57.27	7.16	7.11***
3	275	62.01	75.86	50.01	44.65	-5.78	-8.19***
4	273	58.55	72.84	42.41	39.66	-3.34	-5.48***
5	331	32.54	45.71	30.49	32.05	1.41	1.63
6	240	22.31	33.45	30.20	36.18	6.10	6.26***
7	90	25.21	31.05	34.40	32.72	-1.79	-1.14
Word Study Skills							
2	410	33.30	47.23	40.84	54.23	13.13	14.35***
3	276	44.20	52.24	48.05	46.56	-1.90	- 2.15*
4	275	36.13	43.03	33.73	30.45	-3.75	- 4.79***
5	330	23.82	31.24	32.48	34.93	2.34	2.65**
6	240	25.86	35.13	34.77	39.04	4.36	4.05***
7	90	26.03	33.44	35.04	36.34	1.12	.66

* $p < .05$
*** $p < .001$

Table 2,(cont'd)

Analysis of Special Reading Program Results

	N	Mean Raw Scores		Mean NCEs		Change	t_{corr}
		Pretest	Posttest	Pretest	Posttest		
Core: Grade 7							
Read Comp	133	27.22	34.24	37.30	37.33	.03	.03
Word Study	133	30.58	33.93	42.30	37.12	-4.99	-3.91***
Ch. 74 Grade 7							
Read Comp	106	28.27	41.38	38.82	47.65	8.83	6.58***
Word Study	106	32.98	37.42	46.14	42.69	-3.44	-2.85***
Ch. 74 Grade 8							
Read Comp	35	24.97	34.60	31.82	37.81	5.99	2.39*
Word Study	35	22.49	27.77	38.90	39.70	.80	.33
CAT Reading Grade 6							
Read Comp	9	9.44	32.78	11.59	35.21	23.63	5.40***
Word Study	8	24.00	31.44	31.80	33.15	4.63	1.11
CAT Reading Grade 7							
Read Comp	20	19.35	33.75	25.92	36.62	10.70	5.75***
Word Study	20	31.75	34.75	44.17	38.42	-5.75	-2.37*
CAT Reading Grade 8							
Read Comp	10	21.50	31.60	26.78	33.45	6.68	2.28*
Word Study	10	20.90	27.50	36.28	39.26	2.98	.97
CAT Reading Grade 9							
Read Comp	22	29.05	42.64	37.73	49.47	11.74	4.03
Word Study	22	27.68	33.64	47.19	49.40	1.90	.79

* $p < .05$
*** $p < .001$

Table 3

Analyses of Optional Assignment Reading Test Results

Grade	N	Mean Raw Scores		Mean NCE's		Change	t_{corr}
		Pretest	Posttest	Pretest	Posttest		
Reading Comprehension							
2	49	41.92	74.87	52.50	66.78	14.28	5.82***
3	88	51.08	81.75	61.47	50.78	-10.56	-10.46***
4	112	64.57	76.78	48.54	43.67	- 5.11	- 5.58***
5	102	37.09	49.79	36.67	37.55	.62	.54
6	102	25.35	38.87	34.59	44.03	9.46	6.14***
7	27	34.78	40.04	48.23	45.71	- 2.63	- .82
8	12	27.42	38.25	35.37	43.11	7.74	1.37
9	24	26.67	39.25	34.28	44.56	10.28	3.45**
Word Study Skills							
2	49	40.35	51.74	55.51	47.37	- 8.14	- 3.85***
3	88	61.39	55.89	61.47	53.68	- 7.77	- 7.76***
4	112	42.65	50.18	44.37	42.13	- 2.71	- 2.61*
5	102	30.24	37.34	43.53	45.42	1.91	1.43
6	102	30.93	42.37	42.87	50.60	8.00	5.72***
7	28	34.11	37.32	47.94	42.53	- 5.41	- 2.14*
8	12	26.75	31.17	45.95	45.32	- 0.63	- .30
9	24	23.21	27.04	40.10	38.50	- 1.60	- .85

* $p < .05$
** $p < .01$
*** $p < .001$

Table 4

Analysis of Oral Communications Test Results

Grade	N	Mean Raw Scores		Mean NCEs		Change	t_{corr}
		Pretest	Posttest	Pretest	Posttest		
Total Reading Scores							
3	119	107.47	130.94	50.12	63.28	13.18	8.77***
4	161	108.63	128.17	47.75	44.92	-2.96	-3.52***
5	194	65.87	83.06	37.89	37.15	.59	-.69
6	150	60.18	77.94	40.73	45.82	5.09	5.47***
Listening							
3	119	16.07	19.34	36.55	36.93	.38	.23
4	165	30.86	37.30	39.24	47.98	8.74	7.88***
5	198	25.03	32.71	34.36	39.30	4.95	4.86***
6	150	22.42	29.95	28.61	31.25	2.64	2.05*
Oral Language Facility Test							
3	116	11.35	15.34			4.05	15.27***
4	165	12.49	17.37			4.88	17.03***
5	198	13.07	17.44			4.37	19.63***
6	150	12.83	17.59			4.76	19.42***

* $p < .05$
*** $p < .01$

Table 5

Analysis of Bilingual Program Test Results: Grades 1-8

		Mean Raw Scores		Mean NCE's		Change	t_{corr}
		Pretest	Posttest	Pretest	Posttest		
			Grade 1				
etters & Sounds	90	17.89	25.33	28.04	26.47	-1.93	1.14
ural Comp	89	14.69	19.59	37.81	51.56	13.48	5.22***
ath	90	18.56	20.89			3.21	5.37***
			Grade 2				
ord Read	78	39.32	49.45	49.11	33.64	-15.47	-10.87***
ent. Read	77	16.60	23.03	60.10	38.86	-21.14	-10.00***
ath	61	35.71	42.53				6.77***
			Grade 3				
ead Comp	115	62.85	70.43	50.88	39.02	-12.30	-8.84***
ord Study	122	45.63	48.16	50.84	38.60	-12.77	-10.72***
ath	110	42.70	46.06			-4.21	5.44***
istening	109	16.02	23.87			6.72	5.70***
			Grade 4				
ead Comp	58	62.02	67.44	45.95	34.16	-9.57	-4.93***
ord Study	59	40.34	42.49	40.60	29.57	-9.41	-4.28***
ath	52	57.12	68.69			10.31	4.16***
istening	51	30.42	41.34			11.18	5.56***
			Grade 5				
ead Comp	62	39.74	45.72	40.27	32.06	-7.77	-3.98***
ord Study	60	28.85	33.08	41.14	38.08	-2.04	-1.06
ath	55	47.84	56.70			-12.20	4.82***
istening	44	24.68	35.19			15.64	5.49***

Table 5 (cont'd)

		Mean Raw Scores		Mean NCE's		Change	t_{corr}
		Pretest	Posttest	Pretest	Posttest		
Grade 6							
Read Comp	39	26.46	37.38	36.20	41.86	5.86	2.53
Word Study	39	30.97	33.63	42.93	36.63	-5.42	-2.12*
Math	39	56.80	60.68			4.41	2.11*
Listening	35	22.29	41.20			18.91	5.90***
Grade 7							
Read Comp	10	20.10	23.40	27.00	21.65	-5.35	-1.50
Word Study	10[a]		22.30		18.55		
Math	10	39.90	48.20			8.30	2.36*
Listening	10	17.10	18.90			1.80	1.55
Grade 8							
Read Comp	12	23.42	30.42	29.56	31.74	2.18	2.44
Word Study	12	18.67	21.92	32.59	30.03	-2.56	-0.38
Math	12	56.75	64.25			8.00	3.16**
Listening	12	19.92	22.83			2.92	1.61

a - Too few pretest scores were available for this analysis
* p .05
** p .01
*** p .001

Table 6

ANALYSIS OF MATHEMATICS TEST RESULTS

		Mean Grade Equivalents		Mean NCE		Diff	t (corr)
Grade	N	Pretest	Posttest	Pretest	Posttest		
				Number			
2	122	1.44	2.23	31.26	30.83	-.49	.27
3	335	1.97	3.05	29.10	34.27	5.17	4.78***
4	379	2.60	3.64	27.62	31.16	3.54	4.32***
5	329	3.51	4.65	32.50	36.24	3.74	5.74***
6	360	4.00	5.06	34.17	36.19	2.02	4.97***
7	181	4.24	5.34	29.83	30.79	.91	1.43
8	129	4.99	5.61	19.56	17.79	-1.78	-1.64
				Computation			
2	122	1.54	2.61	40.08	44.81	4.73	3.70***
3	335	2.28	3.25	38.94	41.26	2.31	3.56***
4	379	2.92	3.64	21.96	20.27	-1.67	-1.46
5	329	3.84	5.14	32.02	39.17	7.15	7.17***
6	360	4.39	5.56	34.27	37.65	3.38	5.88***
7	181	4.79	5.99	31.07	34.36	3.29	3.78***
8	129	5.21	6.15	19.58	21.08	1.50	1.30
				Application			
2	122	1.46	2.19	33.07	30.99	-2.08	-2.00*
3	335	1.91	2.90	39.06	32.29	-6.78	-7.46***
4	379	2.54	3.47	22.48	24.77	2.48	2.47*
5	329	3.12	4.18	30.00	36.29	6.29	12.57***
6	360	3.65	4.55	33.54	34.24	.70	1.66
7	181	3.92	4.60	24.66	23.69	-.97	-1.30
8	129	5.11	5.73	21.59	19.95	-1.64	-1.22

In Table 6, the results of the Model A analyses of mathematics test scores are presented. The NCE's derived for these analyses were based on on-level testing. Second grade achievement gains were mixed; they improved in computation, did as well as expected in number and did not do as well as expected in application. Third graders improved in Numbers and Computation, but declined in relative position in Application. Fourth and sixth graders performance exceeded expectation in Number and Application, but not in Computation. Fifth graders improved their relative position on all subtests; and seventh graders improved in Computation.

The Use of Model A Analyses With Out of Level Testing: A Word of Caution: NCE analyses of the out-of-level reading tests involved the use of converting the child's score to a standard score said to indicate his own relative position as compared with children at his own grade level. For example, let us say that Timmy, a second grade student, took the SAT Primary I test, designed for, and with normative data reported for second grade. His pretest reading comprehension score was, let us say, at the 16th percentile, equivalent to an NCE of about 30 as compared with average second graders in the fall semester. This percentile or NCE is the same as his predicted postest percentile or NCE; it is expected that, in the absence of some special, effective treatment, there will be no change in relative group position. Thus, to show such relative change, Timmy's posttest score would have to be equivalent to a higher percentile or NCE as compared with average second graders in the spring semester. Let us say that Timmy's posttest score was equivalent to an NCE of 40 as compared with other second graders this would indicate substantial change above expectation. But Susan, who is in third grade, got a pretest score equivalent to a percentile rank of say 70, and an NCE of 60 which is above average as compared with second

graders (even a poor third grade reader is likely to understand more than an average beginning second grader). The process of conversion to a standard score relative to her third grade peers, however, assumes that Susan if she had taken the third grade test, would have gotten a test score equivalent to the same percentile rank or NCE at that level. Susan's predicted posttest NCE is still 60. Her posttest score is converted to a scaled score assumed to reflect continuity between levels, then to a hypothetical raw score on third grade level, then to an NCE reflecting her hypothetical position relative to third graders had she taken that test. Susan's posttest score, although substantially higher on the posttest she took, gives her an NCE of 40, a substantial decline! The process of converting pretest and posttest scores from an out-of-level test to an on-level test is appropriate only if one can assume that growth for second graders is the same as that for third graders. However, the assumption seems untenable; it is doubtful that growth in reading comprehension procedes in equal increments across grade levels. It seems more likely, from a theoretical point of view, that such gains are normally greatest in second grade, when children are first able to decode comfortably enough to be able to attend to and reflect on the content of the reading and at the fifth or sixth grade level, when, according to Piaget, logical thinking skills change and increase substantially. At other grade levels, it would seem, growth may be expected to procede in decreasing increments. It may be that overestimation of the predicted posttest NCE occurs, and overestimation of the expected growth pattern as well may occur when out-of-level testing and Model A analyses are employed. Therefore, the process required for this year's statistical analyses may yield invalid results. The many declines in average NCE's despite substantial increases in raw score achievement increments, suggests this note of caution. The general pattern of second and sixth grade gains above expectation,

and third and fourth grade decline, also given the same indication that overestimated converted pretest scores and the assumption of expected equal rather than varying increments invalidate these results.

RECOMMENDATIONS: STATISTICS AND MEASUREMENT

The conversion from individual raw scores to normal curve equivalents (NCE's) leads to an appropriate use of statistics for program evaluation, however, a serious problem arises on the conversion of raw scores on one level of a test to NCE's based upon norms for another test level. This conversion involves the statistical prediction of performance on a test that the child has not taken, with predictions, too, of expected chnages from pretest to posttest on the test level the child has not taken! This conversion is highly dependent upon the reliability of the test publisher's techniques in scaling and equating of test levels. Although these techniques are somewhat more sophisticated than those used in the generating of grade equivalents, they seem no more reliable particularly at the extremes of the distribution, which must be considered in the evaluation of changes in the test performance of remedical populations. Perfect reliability as well as linearity and homoscedasticity (straight line relationships between performance on one test and another, and equal variance within the group along the regression line) are only some of the assumptions underlying the scaling procedures which certainly cannot be met and which are necessary in making accurate and meaningful predictive conversions.

In the absence of a reliable method for converting a score on one test to a score on another, it is recommended that the district:

1. Abandon out-of-level testing for statistical analyses, despite the assurances of test publishers that conversions can be accomplished. Find a test for which norms are available on the child's own level. Although teachers, of course, want to administer relatively easy tests to children, to avoid frustration and random guessing, such tests do not yield meaningful results when the scores must be related to on-level norms.

In addition, further recommendations for the testing program are:

2. Tighten up procedures for administration, scoring and recording of test data. For instance, some data sheets are submitted that are so illegible as to be useless; specific requests for legible copies are sometimes met with duplicate versions of the same illegible forms. Those persons who record data must be clearly instructed as to the specific information to record, and where it must be recorded. They must also learn what information is no longer required, when the forms have been changed.

3. Submit pretest scores for review and/or analysis in the fall. This way, some errors can be detected and corrected before they are compounded.

4. Do not underestimate the costs of data analysis and statistical reporting, in terms of time and money. It is possible that district staff members could handle a larger part of the process, under appropriate supervision, but this might be very time consuming. In any case, it seems appropriate to recommend that the district appoint one staff member whose major responsibility is to design and supervise the data collection and reporting process to meet governmental and district expectations, and to

coordinate with consultants and government officials with regard to data analysis.

5. Prepare a contract-like agreement with statistical consultant(s) so that the specific tasks for which each party, district and consultants, is responsible are clearly delineated. Where the tasks are not specified, a consultant could easily and very legitimately spend his/her budgeted time and more on the job, and stop before completion. This ultimate responsibility, of course, lies with the district regardless of the errors and omissions of consultant assistance.

6. More complex data analyses than are required by the state mandate or the current statistical budget might be planned for for the coming years. Relationships among baseline levels of achievement in reading, receptive and expressive language skills, changes in such skills and/or posttest achievement levels for students in the oral communications laboratory program might be investigated. In addition, comparisons of the achievement of students in reading labs vs. reading plus oral communications labs should be made. Longitudinal studies of progress over time, too, should yield information of value.